Theories, fit and the formation of stereotype content

Patricia Margaret Brown

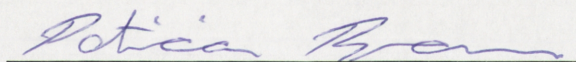B. Comm. (University of New South Wales)

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Certificate of Authorship

Aside from the normal intellectual debts inherent in all scientific endeavour, the research reported in this thesis was carried out by myself without the collaboration of others. This work has not been submitted for a higher degree to any other university or institution.

Patricia Margaret Brown

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Abstract

This thesis examines the social psychological processes underlying the formation of stereotype content. A review is presented which examines the stereotyping literature with respect to the issue of content and its formation. Chapter 2 reviews 'early' accounts of stereotyping taking us until around the late 1970s. Chapters 3, 4 and 5 review 'contemporary' accounts of stereotyping and stereotype content. We have broadly categorized these into three main approaches: the social cognition approach, collective approaches (e.g., social representations theory) and interactionist approaches (e.g., self-categorization theory).

Two key issue are identified from this review: the role of top-down (or theory-driven) versus bottom-up (data-driven) processes in determining stereotype content, and the role of individual cognitive versus social/collective factors in determining content. These issues are discussed in Chapter 6 and an account of the formation of stereotype content (derived from self-categorization theory) is presented. This account argues that content reflects an interaction between both theory and data, and individual and collective factors. The 'accessibility x fit' hypothesis, which has previously been applied to category salience, is applied to category and content formation. More specifically, it is proposed that stereotype content formation reflects the application of background knowledge and theories to the representation and interpretation of a stimulus reality within a specific comparative context.

The empirical chapters of the thesis (Chapters 7-11) outline a series of seven experiments designed to test the above proposal. Experiments 1, 2, 3 and 4 consider the role of fit (both comparative and normative) in determining stereotype content. Experiment 5 also considers the role of fit in content formation; in addition, it examines the effects of generating an explanatory theory upon stereotype content. Experiment 6 manipulates different types of background theories and examines the impact upon content and the interpretation of category-attribute fit. Finally, Experiment 7 seeks to link theories to salient self-categorizations and examines the effects of different theories on judgements of prototypicality and content.

The findings of these experiments are considered with respect the theoretical account proposed and discussed in relation to their implications concerning the nature of content, the categorization process, category-attribute fit, and the nature of shared theories and knowledge.

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Chapter 1

Introduction and Overview

This thesis aims to investigate the processes by which stereotype content forms. For the purposes of this thesis, stereotyping is defined as "the process of ascribing characteristics to people on the basis of their group memberships" (Oakes, Haslam & Turner, 1994, p. 1). The content of a stereotype is defined in relation to both the extent to which, and the way in which, we see a group of people as similar to each other. Content goes beyond saying that a group of people are alike — it tells us how they are alike (and how they are different from other groups of people). As such, content can be thought of as the meaning or substance of a stereotype. However any group of people can be, in principle, described many different ways and by many different attributes. For example, we might just as easily describe Australians, at different times, as laconic or loud, apathetic or passionate. Of the almost infinite number of possible descriptions for a group why do only some of these form part of the group's stereotype? At any time what factors determine how we describe the members of a social group? Are these descriptions based on our observations of that group's behaviour, our expectations about how that group should behave, or some combination of the two? These are the general questions that this thesis seeks to address.

The literature on stereotyping in social psychology is vast; however, references to stereotype content, especially over the last few decades, are somewhat more scant. While this thesis focuses upon stereotype content specifically rather than the more general issues concerning stereotyping, the latter necessarily inform our understanding of the former. It is therefore useful to contextualise issues concerning content within more general trends in stereotyping research. To that end, in this opening chapter we begin by providing a broad historical overview of social psychological research into stereotyping drawing out the implications for content. While such a review does not aim to be exhaustive (for recent reviews see Hamilton & Sherman, 1994; Leyens, Yzerbyt & Schadron, 1994; Oakes et al., 1994; see also the recent edited books of Macrae, Stangor

& Hewstone, 1996; Spears, Oakes, Ellemers & Haslam, 1997), it aims to draw out the key theoretical and empirical issues that have relevance to the topic of stereotype content. Following this review we look in more detail at the issue of stereotype content, why it is an important topic for further investigation, and possible ways in which this issue can be addressed. We conclude this chapter by providing an overview of the aims and structure of this thesis.

Overview of stereotyping research

The introduction of the term 'stereotype' as a social scientific concept is generally credited to Walter Lippmann (1922). In a book concerned more with political and sociological than psychological issues, Lippmann outlined the first theoretical account of stereotypes and stereotyping. Lippmann used the term 'stereotype' to refer to a fixed or preconceived view about any public object including, but not restricted to, social groups. He considered the world to be "altogether too big, too complex, and too fleeting for direct acquaintance" and, because of this, we have to "reconstruct it on a simpler model before we can manage with it" (p. 16). Lippmann argued that the way we see or perceive things is modified by our stereotypes with the result being that we do not always see the world in an accurate way. He conceptualised stereotypes as cognitive structures or "pictures in our heads" and commented that "the pictures inside people's heads do not automatically correspond with the world outside"(p. 31).

While Lippmann considered stereotypes to be cognitive structures whose chief function was to make the world more simple to deal with, he did not see them as neutral or asocial. Indeed, he considered that they were shaped by our culture and our "moral codes". Likewise, he considered that they served to defend our position in society and to justify and rationalise certain views and behaviours. While Lippmann considered stereotypes to be generally inaccurate, overgeneralised, "loaded with preference" and difficult to change, he was not completely damning of them and commented that "the abandonment of all stereotypes for a wholly innocent approach to experience would impoverish human life" (p. 90). Like many researchers who were to follow, Lippmann had difficulty reconciling what appeared to be the inevitability and usefulness of

stereotyping with what he considered to be an undesirable outcome — namely invalid content. Ultimately, "what matters is the character of the stereotypes" (p. 90) and Lippmann considered that the character was generally wrong.

While Lippmann provided the first theoretical account of stereotyping, the first empirical study of stereotype content did not appear until a decade later. Katz and Braly's (1933) investigation into the racial stereotypes held by Princeton students was chiefly concerned with understanding and documenting prejudice. They found a high degree of consensus in terms of the traits their subjects used to characterise their own and other national groups. Given that many subjects had no contact with the groups they were stereotyping Katz and Braly concluded that the stereotypes reflected shared "public attitudes" about racial groups.

Following on from Katz and Braly, a number of studies investigated the content of stereotypes, mainly of racial or national groups (for reviews see Haslam, 1990; Oakes et al., 1994). The Katz-Braly checklist method became the main experimental paradigm used in such studies. These studies tended to focus on cataloguing the content of various stereotypes and considering properties such as their sharedness and stability over time. Theoretically, it was assumed that stereotype content arose from some broad socio-cultural influences which were not clearly articulated. Likewise, it was generally assumed that the content of stereotypes was inaccurate, rigid and difficult to change. However, while some studies demonstrated stability in stereotype content, others revealed the sensitivity and flexibility of stereotype content. For example, a number of studies showed that stereotype content could change with changes in social context and intergroup relations (e.g., Buchanan, 1951; Meenes, 1943; Seago, 1947) and with changes in comparative context (e.g., Diab, 1963a, 1963b).

Such studies suggested that stereotypes could have some basis in fact, and a strand of research emerged which sought to test the validity of stereotype content by attempting to establish objective measures against which stereotypic beliefs could be assessed. For example, a number of studies found some correspondence between stereotypes of a

group and that group's own stereotype of itself (e.g., Bogardus, 1950; Campbell, 1967; Triandis & Vassiliou, 1967; Vinacke, 1949). The results of these studies led a number of researchers to conclude that the content of stereotypes may contain a 'kernel of truth'. This position implied that stereotype content may be based, to some degree, on the direct and accurate observation of the behaviours of social groups (this idea is discussed further in Chapter 2).

While this research was focussed on both describing the content of stereotypes and assessing its validity, it had little to say about the psychological processes underlying stereotyping. However, accounts of prejudice with their basis in psychodynamic theory provided explanations for stereotyping in terms of factors located within the individual (e.g., Adorno, Frenkel-Brunswik, Levinson & Sanford, 1950; Dollard, Doob, Miller, Mowrer & Sears, 1939). Overall, these accounts viewed prejudice as the result of an abnormal and pathological process located within the individual. A person's view of outgroups was argued to reflect their individual needs and desires, and to derive from psychodynamic processes such as projection and justification. Needless to say, the outcome of these processes (content) was considered to be an inaccurate reflection of reality.

In 1952 Asch commented that the earlier, content-based investigations "establish the sociological fact that there is substantial agreement in the characterisation of ethnic and national groups. But the failure to use psychological analysis leaves the problem at an unsatisfactory point" (p. 234). The 1950s saw the emergence of theoretical accounts of stereotyping which challenged the content-based approaches, the personality-based approaches and the assumption that stereotyping was an irrational and faulty process. These accounts emphasised the importance of group memberships and intergroup relations in the development of stereotypes (e.g., Asch, 1952; Fishman, 1956; Sherif & Sherif, 1953; Sherif, 1967; Vinacke, 1957). Allport (1954) put forward a more cognitive argument which related stereotyping to the process of categorization. He suggested that categorization was a rational and necessary process which serves to simplify the perception of the world, and emphasised the importance of in- and outgroup

memberships in the formation of categories and the values associated with those categories.

It can be seen that a view of stereotyping was emerging which was dissatisfied with the content-based studies which merely described stereotypes without attempting to explain how their content came about (in practice, however, most empirical work continued to focus on content). Likewise, accounts based on individual factors were considered inadequate. A number of researchers were questioning whether the stereotyping process was an irrational or pathological one based in the individual. Instead, group-based processes were beginning to be considered important, especially the role of values derived from one's membership of certain social groups. Finally, stereotyping was beginning to be conceptualised as a normal cognitive process which was linked to categorization.

This link between stereotyping and categorization was brought to the forefront of stereotyping research by Henri Tajfel. His work was heavily influenced by the 'New Look' tradition which emphasised the role of values in categorization and perception. He sought to provide an account of stereotyping that incorporated both cognitive and group-based factors. A 1963 study by Tajfel and Wilkes showed that when stimuli are divided into categories that correlate with their characteristics (such as line length), the difference between stimuli in different categories in terms of their characteristics is perceptually accentuated. The fact that this accentuation was observed for non-social categories suggested that it was part of 'normal' cognitive functioning. Tajfel spelled out the implications of these effects for stereotyping in a 1969 paper entitled "Cognitive Aspects of Prejudice". In this he stressed that the cause of prejudice could be found in adaptive cognitive functioning, common to all. In addition to the finding that the categorization of stimuli into different groups led to accentuation effects, Tajfel also found that social categorization alone, under certain conditions, could lead to ingroup bias. This extended the Sherifs' account which argued that such discrimination arose from intergroup conflict. Tajfel produced evidence (Tajfel, Flament, Billig & Bundy, 1971) that a minimal categorization of subjects into groups was sufficient to produce

discrimination in favour of ingroup members and against outgroup members under certain conditions. This finding suggested that stereotype content is to some extent determined by the ingroup-outgroup distinction (see Doise, Csepeli, Dann, Gouge, Larsen & Ostell, 1972).

Tajfel's findings with respect to categorization implied that stereotyping was produced by a normal cognitive process. This led ultimately to a surge in stereotyping research which had a very cognitive emphasis. Generally, from the 1970s onwards, mainstream stereotyping research moved away from studying content and towards examining process, and criticisms were made of the dominant experimental paradigm, namely the Katz-Braly checklist (e.g., Brigham, 1971). Likewise, many researchers were shying away from trying to establish the validity or otherwise of stereotype content, assuming rather that it is biased.

The 1970s saw the beginnings of what has been termed the social cognitive approach to stereotyping. This approach has emphasised the role of cognitive processes in stereotyping and has largely 'borrowed' paradigms from the cognitive domain and applied them to the social. The social cognitive approach attempts to understand the role of cognitive structures and processes in the perception of groups and group members (Hamilton, Stroessner & Driscoll, 1994). Cognitive processes are assumed to operate in a universal fashion regardless of the contents of cognition. In this sense, stereotype content became a less important object of study. Like Lippmann, more than fifty years previously, this position has proposed that the perceptual world is too complex for perceivers to make sense of fully; thus, we need to take cognitive shortcuts in order to conserve scarce information processing capacity. These shortcuts lead to biases in perception — the result of these is stereotyping. Also echoing Lippmann, stereotypes are conceptualised as "pictures in our heads". Hamilton and Trolier (1986), in a review of social cognition and stereotyping, defined a stereotype as:

> a cognitive structure that contains the perceiver's knowledge, beliefs, and expectancies about some human group. (p. 133)

Thus, a perceiver's knowledge, beliefs, and expectancies about social groups (or the content of the stereotype) are assumed to be stored within some cognitive structure (e.g., in the form of a prototype or schema) and to be activated by appropriate cues. Such content initially becomes associated with a stereotype via direct individual observations of social group members, filtered by cognitive biases, or via social learning, although these processes are not well articulated within this approach. Content is applied to a social judgement when there is an appropriate match or fit (in terms of similarity) between the stimulus object and the stored stereotype. The emphasis in this approach has been on individual cognitive processes and biases, and the product of stereotyping (content) has generally been considered to be also biased and overgeneralised.

While in the 1970s and '80s the mainstream research focus had moved to examining individual cognitive processes, other approaches, mainly from a European perspective, have been concerned with the more collective aspects of stereotyping and its content. For example, work from a social representations perspective has focussed on the content of shared beliefs about social groups (e.g., Augoustinos, 1991; Augoustinos & Walker, 1995; Hewstone, Jaspars & Lalljee, 1982). Based upon Moscovici's (1984) social representation concept, this view is critical of individualistic and cognitive-based approaches, and argues that stereotype content derives from societal influences, such as the media, social roles and social structure, rather individual direct contact. Related research is emerging which emphasises the importance of stereotype content and its consensuality, and the social functions served by stereotyping (e.g., Jost & Banaji, 1994; Yzerbyt, Rocher & Schadron, 1997). Discursive approaches (e.g., Billig, Condor, Edwards, Gane, Middleton & Radley, 1988; Potter & Wetherell, 1987; see also Reicher, Hopkins & Condor, 1997), which emphasise the role of language in categorization and stereotyping, are also critical of a purely cognitive analysis. These approaches emphasise both the variability of content and that it reflects the context and functions of communication. Likewise, researchers from within the social cognition approach itself have recently moved towards emphasising the pragmatic and social-functional aspects

of stereotyping beyond cognitive simplification (Fiske, 1992, 1993; Fiske & Leyens, 1997; Leyens et al., 1994; Operario & Fiske, 1999).

Around the same time as the development of the social cognition perspective and the collective perspectives outlined above was the emergence of an interactionist approach to stereotyping, typified by social identity theory (Tajfel & Turner, 1979, 1986) and subsequently self-categorization theory (Turner, Hogg, Oakes, Reicher & Wetherell, 1987; Turner, Oakes, Haslam & McGarty, 1994). This theoretical perspective has built upon Tajfel's earlier work and has also been critical of the cognitive perspective for ignoring the role of social and group-based factors in stereotyping. Work grounded in this approach has gone some way towards addressing the social aspects of stereotyping and moving towards a theoretical analysis of stereotype content. Indeed, Linssen and Hagendoorn (1994) comment that:

> Of all process-oriented theories of stereotyping, self-categorization theory is most prone to predicting stereotype content. (p. 165)

This approach combines some aspects of both the cognitive approach and the more collective approaches, and has attempted to present an integrated, interactionist theory that includes an analysis of cognitive, motivational and social factors (and the interaction between these factors) in stereotyping. Importantly, this approach considers stereotyping to be a 'psychologically' valid reflection of social reality (see Oakes et al., 1994; Oakes & Turner, 1990) and moves research towards considering content as meaningfully produced.

Very briefly, this perspective argues that stereotyping has its basis in the categorization of social groups. The dimensions on which groups are categorized (and stereotyped) depend both on comparative differences between the group being stereotyped and other relevant comparison groups (this idea has been termed comparative fit), and the types of differences we would expect to find between these groups in terms of our expectations, broad background knowledge and theories (normative fit). The other important variable is perceiver readiness which refers to how 'ready' we are to use a given category and depends on factors such as the perceiver's motivations, values and goals. Importantly,

normative fit is not considered to be a fixed set of prior expectations associated with a category that are 'matched' with the comparative differences we perceive between categories. Rather, normative fit is argued to be flexible and is determined by context, and by background theories and knowledge. Thus, fit is not argued to be between a fixed stored category and aspects of the perceived data but rather between the data and a category that is actively constructed to match both the comparative and normative aspects of that data in interaction with perceiver readiness. In this perspective, then, the content of social categories (including self-categories) is an "interactive product of motives and expectations, knowledge and reality" (Turner & Onorato, 1999, p. 31).

It can be seen from the above review that while the content issue has sunk from prominence in mainstream research it has always been 'waiting in the wings' to make a reappearance on centre stage, and has been implicitly (if not explicitly) dealt with. Indeed, recently there has been somewhat of a revival of interest in the content of stereotypes from the social cognitive perspective, and an acknowledgment that previous accounts have focussed too exclusively on process. In the next section we consider some of the reasons for this revived interest and discuss the importance of stereotype content as an area of research.

Revival of the content issue

The renewed interest in stereotype content is illustrated by the following comments from some recent influential writings on stereotyping from different perspectives which indicate a recognition that the content issue has been overlooked:

> [the question of] the determinants of the specific content of a group stereotype ... is one that has been relatively neglected by social cognitive research. (Hamilton, Stroessner & Driscoll, 1994, p. 20)

> ... issues of process have recently tended to outweigh issues of content in the areas of stereotypes and stereotyping, and as a result less is known than we would like about the exact content of social-group representations. (Stangor & Lange, 1994, p. 393)

> ... as the cognitive analysis has progressed, important issues of actual stereotype *content* ... have slipped from the social psychologists' agenda. (Oakes, Haslam & Turner, 1994, p. 7, emphasis in original)

Another aspect of stereotyping that, surprisingly, has been neglected is the specific content of group stereotypes. (Zebrowitz, 1996, p. 79)

Likewise, there has been an increasing recognition that stereotype content <u>matters</u>. This is perhaps not surprising given that many stereotyping researchers are originally motivated to study stereotyping by what they see as unfair and inaccurate stereotype content being applied. Most obviously stereotype content is important because it is linked to prejudice — there are important social, moral and ethical differences between, for example, viewing Australian Aborigines as under-privileged versus lazy. From the social cognition perspective content has often been ignored because stereotyping processes are assumed to operate in a universal way regardless of content. However, there is an increasing acknowledgment that even if content does not influence process it does influence subsequent behaviour towards social group members and may contribute to the self-fulfilling nature of many stereotypes (e.g., Snyder, 1981).

Why does it matter if people in a group are seen as nurturant or lazy? The most obvious reason is that social interactions are likely to be affected. Regardless of whether "lazy" or "nurturant" have the same effects on processing information about people, we are likely to behave differently to a nurturant person than a lazy person, or perhaps seeks more interactions with one than the other. Thus, stereotype content is important in the social worlds we all inhabit .... (Schneider, 1996, p. 428)

Thus, according to this argument, the content of stereotypes influences our behaviour towards social groups which can ultimately feed back into the content of the original stereotype.

Other commentators are arguing that content matters because of the consensual nature of many of our stereotypes (e.g., social representations theory) and because content reflects the social and ideological functions served by stereotyping (e.g., Hoffman & Hurst, 1990; Jost & Banaji, 1994; Yzerbyt et al., 1997: see also Tajfel, 1981). Understanding the origins and nature of stereotype content can help us to understand the social functions served by stereotypes and the social structure which they reflect. This position is also beginning to be acknowledged by researchers from the social cognitive perspective:

It *matters* that stereotypes of Blacks include "lazy", "athletic" and "musical" rather than some other set of traits, both because these beliefs are involved in determining the social status of Blacks within a society and because these beliefs are determined *by* the social position of Blacks. (Stangor & Schaller, 1996, p. 17, emphasis in original)

While those coming from both an individual-cognitive and more collective perspective have recently argued for the importance of including stereotype content in their analyses, others have suggested that the two perspectives need to be integrated to achieve a more complete understanding of stereotyping and stereotype content (e.g., Haslam, 1997; Stangor & Schaller, 1996). Oakes, Haslam and Turner end their 1994 book on stereotyping by calling for further progress on an integrative theory of stereotyping that takes into account stereotype content:

We believe that a *social* psychological metatheory of cognition will do much to advance the prospects for a productive integration of theories of the cognitive form and the social content of stereotypes and it is this integration that is surely the next major task for stereotyping researchers. (p. 213, emphasis in original)

They argue that stereotyping is not a biased process based on information-processing factors that inaccurately reflect stimulus reality. Rather, they consider stereotyping to be a psychologically valid and rational process that allows perceivers to make sense of the stimulus world. Stereotype content is argued to be the product of a meaningful and valid process that reflects an interaction between cognitive factors and socially shared knowledge. From this perspective content matters not only because it is valid, meaningful, collectively shared, and functional, but also because understanding content can further inform us about process.

The time appears ripe to reconsider stereotype content as an important topic in stereotyping research. The point is not to throw away the cognitive analysis (because it has tended to neglect content) but rather to add to it by introducing the importance of social variables. The challenge is to produce an account of stereotype content that includes both cognitive and social factors in an interactive and integrative fashion. Indeed, as early as 1981 Tajfel summed up the current challenge as follows:

The traditions of social psychological research on stereotypes originate primarily from two sources: the descriptive one, consisting of a detailed analysis of the

contents of stereotypes; and the cognitive one which emphasises ... the *individual* cognitive processes. These two traditions have not, however, come together to work towards the construction of a theory of *contents* of stereotypes as shared by social groups. (1981, pp. 159-160, emphasis in original)

Aims and outline of thesis

In this thesis we hope to go some way towards meeting the above challenge and producing an account of stereotype content that takes into account both cognitive factors, and broader social factors such as group memberships, values, motivations, background knowledge and theories, and ideologies. Within such a model, we will argue that stereotypes are not merely cognitive devices which filter the stimulus world and reduce information-processing demands, but rather they are motivated and purposeful social tools which serve personal, social and ideological functions (cf. Fiske, 1992, 1993; Operario & Fiske, 1999). This thesis aims to advance our understanding of stereotype content and how it forms.

There have been very few (if any) attempts to consider extensively and systematically the issue of stereotype content formation via a review of the stereotyping literature. Chapters 2, 3, 4 and 5 of this thesis aim to provide a thorough review of this literature focussing on what it can tell us about stereotype content. This message is, at times, implicit rather than explicit and needs to be drawn out. Chapter 2 covers 'early' approaches to stereotype content taking us up until around the late 1970s. This review includes the checklist studies, the 'kernel of truth' debate, early personality approaches to prejudice, early theoretical accounts of stereotyping, and Tajfel's work on values, identity and categorization. Chapters 3, 4 and 5 consider 'modern' or 'contemporary' approaches to stereotype content from the late 1970s onwards. Broadly speaking there have been three dominant approaches to stereotyping and stereotype content: individualistic approaches that have focussed on individual cognitive processes in stereotyping largely to the exclusion of content issues (e.g., the social cognition approach); collective approaches that have emphasised content and its shared nature and have been critical of individualistic cognitive accounts (e.g., social representations theory, discursive approaches); and interactionist accounts that have emphasised the role of both cognitive and social factors in producing stereotype content and have attempted

to integrate the two levels of analysis (e.g., self-categorization theory). Chapter 3 covers research from the social cognition perspective which has been the dominant approach to stereotyping in the last two decades. Chapter 4 covers collective approaches and Chapter 5 interactionist approaches, which have both offered criticisms of, and alternatives to, the dominant social cognition paradigm.

While Chapters 2, 3, 4 and 5 attempt to identify from the literature the themes and issues important in understanding stereotype content, Chapter 6 considers these issues in more detail. Broadly speaking, most theorists agree that both 'bottom-up' and 'top-down' processes have important influences on stereotype content. Another way of putting this is that stereotype content reflects both aspects of stimulus reality which are perceived and the stored knowledge and motivations, needs etc. which the perceiver brings with them to any judgement. Despite this apparent consensus there is considerable and fundamental divergence concerning the detail of these processes, and in Chapter 6 we examine in more detail the different accounts of the formation of stereotype content with respect to this issue. Likewise, we discuss the dichotomy in much of the literature between the role of individual versus collective or group-based factors in the formation of stereotype content. It is concluded that an interactionist approach to the formation of stereotype content will prove the most useful and complete account. Such an approach is interactionist in two senses: it considers the interaction of theory and data, and the interaction of individual cognitive processes and broader social factors. We outline our account of the formation of stereotype content derived from self-categorization theory (Turner et al., 1987) with particular emphasis on its account of category salience (see Oakes, 1987; Oakes et al., 1994). This account seeks to explain stereotype content as reflecting an interaction between stimulus data, motives and background theories and knowledge. It is argued that stereotype content is the motivated application of higher-order knowledge to represent and make sense of a given stimulus reality in a certain comparative social context (see Turner & Onorato, 1999). We articulate in more detail the role of fit in providing the link between data and background knowledge which determines (in part) the content produced to describe a

group in any given context. It is argued that the stereotype content associated with any given group is not fixed or stored in our heads waiting to be activated but actively constructed 'on-the-spot' to reflect both category fit and perceiver readiness. While theoretically both fit and perceiver readiness are important, the empirical work of this thesis takes the role of fit as its main focus. We also consider the socially-shared nature of background knowledge and theories, and how these are tied to salient self-categorizations. We conclude the chapter by outlining the aims of the thesis, the major hypotheses to be tested and the empirical strategy adopted in testing these.

Chapters 7 to 11 are the empirical chapters of the thesis and outline a series of seven experiments aimed at clarifying the role of contextual factors, normative fit, and background theories and knowledge, in determining stereotype content. The concluding chapter (Chapter 12) discusses the major empirical findings of the thesis and considers the extent to which our account of the formation of stereotype content extends our understanding of this issue. We consider how these findings relate to the arguments put forward by the thesis, the significance of these findings and their broader implications. These relate to the nature of the categorization process, category-attribute fit, the construction of theories, the nature of shared knowledge and stereotype change.

Chapter 2

Early Approaches to Stereotype Content

This chapter reviews early approaches to stereotype content taking us to approximately the end of the 1970s. Initially the chapter covers the early content-based studies based on the checklist methodology and the debate about stereotype content containing a 'kernel of truth', personality-based approaches to content, and early group-based theoretical approaches. The chapter then provides an overview of Tajfel's work on cognitive processes in stereotyping, and the role of values and of social identity processes. We consider the implications of this work for the formation of stereotype content. In terms of the overall aims of the thesis (as outlined in the previous chapter) the review seeks to identify and elucidate early approaches to, and understanding of, stereotype content which more contemporary accounts build upon and often echo. In particular, Tajfel's analysis of the role of categorization and cognitive processes in stereotyping has provided the starting point for the major contemporary approaches to stereotyping (e.g., the social cognitive approach and self-categorization theory) and as such this chapter provides a background for the chapters to follow.

Checklist studies and the 'kernel of truth' debate

As discussed in the previous chapter, many of the early empirical studies into stereotyping had content as their primary focus. One of the earliest and most frequently cited empirical studies was that of Katz and Braly (1933) which sought to catalogue the racial stereotypes of 100 Princeton students. They were interested in investigating prejudice as a "public attitude". Students were asked to select, from a previously prepared list of 84 adjectives, the traits they thought were most characteristic of 10 national groups. The groups were: Germans, Italians, Negroes, Irish, English, Jews, Americans, Chinese, Japanese and Turks. Subjects were then instructed to go back over the lists of words they had chosen and mark five words which seemed to them most typical of each group. The results showed a high degree of consensus among subjects in

terms of the traits assigned to each group. For example, Negroes were characterised as superstitious (84% of subjects), lazy (75%) and happy-go-lucky (38%). For Katz and Braly, the most interesting finding was that subjects held quite consensual stereotypes of groups with which they had had little or no contact:

> The degree of agreement among students in assigning characteristics from a list of 84 adjectives to different races seems too great to be the sole result of the students' contacts with members of these races. (p. 288)

However they argued that the individual experience of students may influence stereotypic judgements "but it probably does so to confirm the original stereotype which he [sic] has learned" (p. 288). Thus, the authors suggested that "the knowledge upon which students' assigned characteristics to various races has both a private and personal basis and a public or cultural basis" (p. 289). Stereotype content was argued to derive partly from direct contact with other groups but this contact was influenced by "public attitudes" already held about these groups.

Subsequently, a number of studies investigated the content of stereotypes using Katz and Braly's checklist paradigm. Many of these studies looked at stereotype content in the context of changing intergroup relations and intergroup conflict (such as World War II). For example, Meenes (1943) considered stereotypes of the 10 groups used in the original Katz and Braly study both before (December, 1935) and after Pearl Harbour (February, 1942). Meenes suggested that there was considerable consistency in the traits across this period pointing to the rigidity of stereotype content:

> There is more resemblance than differences in the 1935 and 1942 stereotypes: even those that have changed most, show about half the adjectives common to both years. (p. 332)

However there were changes in content especially of the stereotypes of those groups involved in the War. For example, in 1942 Germans were characterised as more nationalistic, aggressive, revengeful, cruel and treacherous, and less intelligent and industrious compared to 1935. Likewise, for the Japanese the top three traits chosen went from intelligent, industrious and tradition-loving in 1935, to sly, treacherous and extremely nationalistic in 1942 (see also Buchanan, 1951; Seago, 1947). In a similar

vein Sinha and Upadhyaya (1960) investigated the change and persistence in the stereotypes of Indian university students towards Indians and eight other ethnic groups in the context of a current Chinese-Indian border dispute. Using a Katz-Braly type checklist, stereotypes were assessed both before and during the dispute. Generally the stereotypes were stable across that period with the exception of the Chinese, whose stereotype changed dramatically. Their characterisation went from friendly, progressive, honest, nationalistic, brave, cultured and active before the dispute, to aggressive, cheats, selfish, war-mongers, cruel, shrewd and stupid during the dispute.

Replications of the original Katz and Braly study in 1951 (Gilbert) and again in 1969 (Karlins, Coffman & Walters) pointed to both stability and change in the stereotypes held by three generations of Princeton students. Many of the changes observed were explainable in terms of changes in intergroup relations brought about by World War II and the Cold War. For example, Gilbert found that characterisations of Germans as scientifically-minded, stolid and industrious decreased, and as extremely nationalistic, aggressive and arrogant increased, reflecting the events of World War II and the rise of Nazism. Gilbert suggests that the students' stereotypes appear to be "based more on cultural and historical realities and less on fictitious caricatures or the prejudices of their parents" (p. 252). Karlins, Coffman and Walters (1969) found further changes in stereotype content with, for example, the stereotype of the Japanese becoming more positive again after being relatively negative following World War II.

Therefore, much evidence emerged from the early checklist studies that stereotype content could change to reflect changes in intergroup relations and large scale social events. Diab (1963a, 1963b) found that content could also change to reflect changes in frame of reference. Using the Katz-Braly method he found significant changes in the content of stereotypes held by Arab students in Beirut. For example, Americans were characterised more positively when judged in the context of 6 rather than 12 other groups, and when judged immediately after Russians rather than Germans (1963a). In a second study (1963b) subjects assigned traits to either 13 groups or 5 groups, 4 of which were unpopular ('low anchor') groups. The stereotype of the French was much more

positive in the context of the 4 other unpopular groups compared to when it was judged among 13 groups. These results suggested that stereotype content is not only sensitive to changes in social events and intergroup relations but also to the overall comparative context in which groups are judged (Haslam, Turner, Oakes, McGarty & Hayes, 1992; Oakes et al., 1994).

The emerging evidence that stereotype content could reflect intergroup relations and real social changes suggested to some researchers that stereotype content may to some extent accurately reflect reality (e.g., Gilbert, 1951). Traditionally, stereotype content had been assumed to be, at best, a distorted reflection of reality. As Katz and Braly (1935) commented:

> A stereotype is a fixed impression, which conforms very little to the facts it pretends to represent, and results from our defining first and observing second. (p. 181)

Many early studies sought to demonstrate the factual basis or otherwise of stereotypes and generally concluded that most stereotypes were inaccurate or overgeneralised (e.g., Klineberg, 1951; LaPiere, 1936; Shrieke, 1936). One solution to this problem was seen as ascertaining the 'objective' truth about the various groups that were subjected to stereotyping. Borgadus (1950) called for the collection of 'sociotypes' which, unlike stereotypes, would be based on objective, scientific method. A number of studies attempted to establish the validity of stereotype content by judging it against 'objective' data and, surprisingly, found that many stereotypes did indeed have some apparent validity (eg. consistency between hetero-stereotypes and auto-stereotypes of groups, Abate & Berrien, 1967; Borgadus, 1950; Triandis & Vassiliou, 1967; Vinacke, 1949). It was concluded by some that stereotypes may be valid in content to some extent and contain a 'kernel of truth' (see Oakes et al., 1994; Oakes & Reynolds, 1997, for more extensive reviews of the 'kernel of truth' debate).

At the heart of this argument was the idea that if people came into direct contact with other groups, and observed what they were really like, they would form more accurate stereotypes reflecting actual differences between groups. Triandis and Vassiliou (1967)

suggested that as contact between groups increased, correspondence between own and other stereotypes would also increase. Prothro and Melikian (1955) considered the extent to which stereotype content changes with increased familiarity with the stereotyped group. Employing the Katz-Braly technique they investigated the stereotypes of Americans (and four other groups — Jews, English, Germans, and Japanese) held by Arab students at the University of Beirut. They compared stereotypes obtained in May 1951 with those obtained in December 1952 following a large influx of Americans as residents and visitors. While the stereotypes of the four other groups were largely unchanged across this period the stereotype of the Americans was expanded to include the traits sociable, superficial, jolly and simple. The authors conclude that "increased familiarity apparently produced the change" (p. 10) implying that stereotype content changed in response to direct observation of the Americans' behaviour.

Campbell (1967) argued that "the greater the real differences between groups ... the more likely it is that that feature will appear in the stereotyped imagery each group has of the other" (p. 821). He suggested that both anthropological and sociological evidence points to the fact that groups do differ in terms of their culture, customs, appearance, roles and status. Therefore, we would expect a "grain of truth" in stereotypes that reflect these real differences. However, Campbell stressed that the differences perceived between groups reflected "social reality" (e.g., intergroup relations) rather than intrinsic, unchanging differences between group members (see Oakes & Reynolds, 1997). Likewise, while real differences may exist between groups these may be exaggerated in some stereotypes (LeVine & Campbell, 1972).

In summary, the early approaches to stereotyping focussed on cataloguing the content of stereotypes and on investigating the validity of that content. These approaches have been criticised by later researchers on a number of grounds. For example, Brigham (1971) has argued that the Katz and Braly checklist paradigm forces subjects into thinking in terms of generalisations and categories, and encourages them to choose more adjectives and produce more prejudicial responses. Also he believed that it was impossible to distinguish between subjects who actually endorse the stereotype and

those who are just reporting on their knowledge of the traits that persons in a culture commonly attribute to an ethnic group. The methodology has also been criticised for being highly reactive and susceptible to impression management and social desirability effects (Brigham, 1971). In addition, the early cataloguing studies have been criticised for focussing on content to the exclusion of psychological process (Asch, 1952; Brigham, 1971). Likewise, criticisms have been aimed at those studies attempting to find a factual basis for stereotype content or to establish a 'kernel of truth' (Brigham, 1971; Sherif, 1967). It has been questioned how it is possible to have 'objective' measures of stereotype content and whether scientific or sociological methods are really any more value free than the impressions of lay persons. Finally it has been argued that the correspondence between stereotypes of a group and that group's own stereotype does not necessarily reflect validity of the stereotype but rather the fact that both groups share a common belief and value system from which they derive their stereotypes (e.g., Bayton, 1941; Tajfel, 1972).

Despite these criticisms, and the fact that the early studies were descriptive rather than theoretical, they nevertheless contribute to our understanding of stereotype content. Firstly, a paradigm (Katz and Braly checklist) was established which is still being employed to ascertain the content of stereotypes (e.g., Haslam, Oakes, McGarty, Turner, Reynolds & Eggins, 1996; Haslam, Oakes, Turner & McGarty, 1995; Haslam et al., 1992). Secondly, a number of these studies suggested that stereotype content was sensitive to, and reflected, changes in context and intergroup relations. These studies also established that stereotype content was shared within groups of people, was consensual to a large degree, and that members of a group could hold stereotypic beliefs about another group with which they had no direct contact. Finally, the 'kernel of truth' debate raised the issue of the extent to which stereotype content reflects direct and accurate observation as opposed to culturally held attitudes and biases, a debate that continues in modern approaches to stereotyping.

Personality-based approaches

While the checklist studies were mainly descriptive, early theoretical accounts that did emerge were largely from within a psychodynamic tradition and located the cause of prejudice and the content of prejudicial beliefs within the individual's personality (e.g., Adorno, Frenkel-Brunswik, Levinson & Sanford, 1950; Dollard, Doob, Miller, Mowrer & Sears, 1939). The classic account of prejudice arising from personality was the authoritarian personality (Adorno et al., 1950). This theory linked prejudice to a certain type of personality, named authoritarian, and set about uncovering the factors contributing to this personality type. Questionnaires were administered to subjects followed by extensive interviews and projective tests with selected subjects. The questionnaires included an anti-Semitism scale (A-S), an ethnocentrism scale (E), a political and economic conservatism scale (PEC) and a fascism (F) scale. As R. Brown (1965) notes, the A-S, E and PEC scales are all concerned with explicit ideology while the F-scale is concerned with personality, namely the personality of an authoritarian. The researchers argued that an authoritarian personality would coincide with a certain set of ideological beliefs. They found positive correlations between scores on the F-scale, and those on the A-S scale, the E-scale and the PEC scale, concluding that people with potentially fascist personalities were more likely to be prejudiced, both against Jews and generally, and to hold conservative political and economic views. From the interview data, they found that prejudiced subjects were more likely to engage in rigid kinds of thinking, have a high opinion of themselves, and be concerned with status, dominance and power. They tended to idolise their parents who in turn were described as strict, disciplinarian and punitive.

Therefore, Adorno and colleagues claimed that potential fascists had a particular framework of beliefs which were not logically related. However, there was a psychological relationship binding these individual beliefs together into a 'structural unit' in which the elements are interconnected in terms of underlying psychological dynamics. It was postulated, based on psychodynamic theory, that the potential fascist was repressing underlying ambivalences and projecting negative aspects of the self onto

outgroups. Thus, as children, the prejudiced are 'frustrated' by their authoritarian parents. Since they idolise their parents, and because their parents are often physically punitive, they must take out their frustration on someone else; consequently, their aggression is displaced onto a minority group.

In this account of prejudice, therefore, the content of prejudiced beliefs has its basis in a certain type of personality, while this personality in turn has a developmental basis. It implies that content is invalid (prejudiced) and does not reflect stimulus reality. While this account links prejudice, and the content of prejudiced beliefs, to ideology it provides a very individualistic account of ideology — certain personality factors, formed in childhood, give rise to certain patterns of beliefs.

While the work on the authoritarian personality has been highly influential, it has also been widely criticised on both methodological and theoretical grounds (Altemeyer, 1988; Billig, 1976; R. Brown, 1965; Christie & Jahoda, 1954; Duckitt, 1992; Pettigrew, 1958). Perhaps one of the most damaging criticisms of the authoritarian personality is that the account fails to adequately explain widespread prejudice such as, for example, that experienced during apartheid in South Africa — it is difficult to accept that such large numbers of persons had fascist personalities (Duckitt, 1992). This is at odds with the findings of many of the checklist studies reviewed above which showed considerable consensus in stereotypical beliefs. It also cannot account for the changes in stereotype content such as that demonstrated by many of the checklist studies.

R. Brown (1965) has argued that while there is evidence that attitudes of anti-Semitism, ethnocentrism and authoritarianism are correlated, this does not show that an authoritarian personality causes prejudice. He suggests that the traits of the authoritarian may cohere because they are the norms of people with little education and of low socioeconomic status (SES). Negative correlations between IQ and education, and authoritarianism have been found (Adorno et al., 1950; Hyman & Sheatsley, 1954, cited in R. Brown, 1965). Therefore it has been argued that authoritarianism may reflect, and be explained in terms of, the norms of a certain group of people (namely uneducated,

low SES) rather than being a personality syndrome. However, regardless of whether one accepts the personality-based account or not, the data from Adorno and colleagues does appear to point to a important link between the expression of a certain sets of attitudes (or a certain stereotype content) and an ideological standpoint. People are prejudiced because this somehow 'fits in' with a wider constellation of beliefs.

Early group-based approaches

Around the same time as the publication of "The Authoritarian Personality", other theoretical accounts of stereotyping and prejudice were emerging which were group-based rather than individualistic explanations (e.g., Asch, 1952; Fishman, 1956; LaViolette & Silvert, 1951; Vinacke, 1956, 1957). Some of these accounts questioned whether personality alone could adequately explain stereotyping. Likewise, they questioned the assumed link between stereotyping and prejudice, and the assumed invalidity of stereotyping and stereotype content. For example, Fishman (1956) argued that the process of stereotyping and the contents of stereotypes need to be separated. While the process of stereotyping may be rigid, the contents of stereotypes are not necessarily. He was critical of the 'authoritarian personality' approach to stereotyping, in part because it represented the content of stereotyping as 'culture-free':

> The 'authoritarian' type, it must be remembered, not only exists in a certain milieu but to some extent because of a certain milieu. (Fishman, 1956, p. 41)

Therefore, Fishman argued that stereotype content reflects culture, and also people's goals, motives, and the patterns of social interaction. As such, it is only as rigid as these factors. Likewise, stereotyping reflects the customs and values of not only the stereotyped group but also the stereotyping group. Certain stereotype content becomes important because it reflects the concerns of one's own group. Therefore content reflects both the groups involved and the relationship between them. However, Fishman hung onto the idea that stereotyping is basically an "inferior judgemental process" — which may nevertheless produce valid content.

Asch (1952) also objected to the idea that stereotypes are necessarily invalid and irrational, or more specifically, to the assumption that every view of groups is

"subjective and wrong". He argued rather that groups are real and have real psychological properties. In the 1952 text "Social Psychology" he provides detailed critiques of both the individualistic and the group mind theses, and presents an elegant argument in favour of an interactionist approach. Asch also makes some interesting points with respect to attitudes and social beliefs which can be linked to our understanding of stereotype content. He argues that "needs and interests are crucial in the elaboration of belief and become responsible for similarities and differences between groups" (p. 566). Using the example of racial attitudes, Asch argues that these do not merely reflect knowledge but other needs and interests, which may "organise knowledge in a more inflexible way than the available data warrant, thus protecting it from disturbing contradictory observations" (p. 568). Social attitudes reflect our place in society. Using the example of racial tensions between white and black Americans in the southern USA, he argues that "the racial sentiment of Southerners is only in part directed to Negroes: it is also a function of their most significant ties to family, neighbourhood and group" (p. 577). To change these views would require both a "drastic intellectual reorientation" and "a serious snapping of social bonds": to reject such views would amount to rejecting one's own ingroup. Likewise, Asch argues that while we may reject the southerners' views as prejudiced, from their point of view they make some sense:

> Information that alone or in a different context would point to racial equality has a different meaning in the context of the Southerner's social field. (Asch, 1952, p. 578)

Therefore, such racial attitudes serve the function of rationalising and defending an existing social system, or view of the world.

Like Asch and Fishman, Vinacke (1956, 1957) also rejected the idea that stereotyping is necessarily 'bad' and made the point that stereotyping is a two-way process reflecting both groups involved. While stereotypes had commonly been regarded as a type of attitude related to prejudice or authoritarianism, he argued that they should be more properly regarded as concept systems that serve to organise experiences as do other concepts. Therefore, stereotypes can be regarded neutrally as a special kind of concept,

a means by which objects (or persons) can be classified on the basis of perceived properties facilitating meaningful responses to those objects. This implies there is nothing inherently bad in stereotyping any more than in forming concepts of any kind (Vinacke, 1957). Vinacke defines concepts as "cognitive organising systems which serve to bring pertinent features of past experience to bear upon a present stimulus object" (p. 233). Therefore concepts, and by implication stereotypes, determine the meaning of objects (and people).

Sherif (Sherif & Sherif, 1953, summarised in Sherif, 1967) also rejected the personality-based approaches to stereotyping and prejudice. He saw stereotypes not as "a problem of the idiosyncratic hates and unfounded beliefs of a few separated individuals" but as "images shared ... by large numbers of persons belonging to the same human grouping" (1967, p. 234). In his theory of realistic group conflict, Sherif formulated an account of prejudice and intergroup relations in which prejudice was seen as a 'normal' and widespread phenomenon given the right intergroup conditions. His major argument was that intergroup attitudes (such as stereotypes) depend crucially upon the relationship between groups. He rejected the idea that stereotypes are 'false' or 'wrong' as he believed this "evades the issue of stereotype formation by definition" (p. 23).

In a series of now famous studies Sherif attempted to demonstrate that stereotypes depend upon relationships between groups. More specifically, he hypothesised that conflict between groups would lead to negative attitudes or prejudice. His studies involved groups of 11 to 12 year old schoolboys who were attending summer camps. All boys were carefully screened so that they came from similar racial, religious and class backgrounds. One study involved three stages: group formation, intergroup conflict and conflict reduction. In the first stage the boys were split into two groups that were kept separate from each other. Within these groups, norms of behaviour and 'mini-cultures' quickly evolved. In the second stage the two groups were brought into contact with each other in the context of competitive activities defined by goals that both groups desired but which only one group could obtain. The two groups quickly formed negative attitudes towards the other group. Sherif concludes that these attitudes formed in the

absence of "cultural, physical or economic differences" and in the absence of "maladjusted, neurotic or unstable tendencies" (p. 85). He argues that the sufficient condition for the formation of negative stereotypes is the "existence of two groups competing for goals that only one group could attain" (p. 85). In the third stage of the study the groups were brought together to achieve superordinate goals that required the co-operation of both groups, and which both groups desired but could not achieve alone. Over time negative attitudes and ingroup bias decreased and the boys began to form friendships that cut across group lines.

Sherif's studies are important for a number of reasons. Firstly, they went against the psychodynamic view that prejudice was located within the pathological individual. By showing that negative and hostile attitudes could arise in ordinary schoolboys from similar backgrounds they showed that prejudice was a normal process arising from conflict between groups. In addition, they showed that prejudice was a group phenomenon, that stereotypes were shared within groups and arose out of group membership. That is, stereotypes are both consensual and collectively produced. The summer camp studies showed that stereotypes (and their content) were not fixed and resistant to change but flexible and could change with changes in intergroup relations.

Sherif recognised the importance of both history and future goals in the formation of stereotypic images. For him the formation of stereotypes about other people was part of the process of forming a conception of oneself. The way we define ourselves and our group membership will influence the formation of images of other groups that "are invariably formulated from the point of view of the in-group's interests and goals" (p. 27). We tend to judge other groups using the values of our own group as the standard. The categories we place others in are not always neutral and reflect not just similarities and differences but the "place of those people relative to us" (p. 30). Thus Sherif viewed the content of category descriptions as being evaluative and relative to one's (and one's group's) values. The formation of a given content for a person "presupposes that he [sic] accepts the content as defining or elaborating his concept of himself and 'his kind' in relation to other categories of people" (p. 37). Therefore stereotype content involves not

only defining who other people are but also defining who one's self is. Given that he argued that stereotypes arise from the perspective of one group in relation to another group in a specific historical context, Sherif did not see it as fruitful to assess the "truth" of stereotype content.

Allport (1954) put forward a more functional and cognitive argument for the use of stereotypes. He argued that we need to use categories to help us make sense of the world and that categories serve to "engender meaning upon the world". He related prejudice to categorization by suggesting that it arose from an association between categorization and differences in value and that the "most important categories a man [sic] has are his own personal values" (p. 24). Allport, like Sherif, saw the primary source of these values as one's membership of various ingroups. Things associated with one's ingroup are typically liked and vice versa for those associated with an outgroup. Thus prejudice is determined by categorizing a person as belonging to one's ingroup or to an outgroup. Allport noted that ingroups and outgroups may change and in this sense categorization was a flexible process. However, he also thought that "in most instances categories are stubborn and resist change" and that we are more likely to admit evidence that confirms rather than contradicts our beliefs (p. 23). The principle of "least effort" means that categories assimilate as much information as they can:

> When evidence conflicts with categories it may be distorted (through selection, accentuation, interpretation) so as to seem to confirm the category. (p. 176)

While Allport argued that "prejudgement" was normal, ultimately he believed that the cognitive processes of prejudiced people were different from those of tolerant people. Therefore he rejected theories, such as Sherif's, as "too collectivistic" and argued that "prejudice is ultimately a problem of personality and development" (p. 41).

While Allport hung on to the notion that prejudice was essentially a personality disorder, generally theories were developing the idea that stereotyping was a 'normal' process and one that served some function. For Allport, that function was to simplify and structure the environment. Likewise, Vinacke argued that stereotypes are like concepts that "facilitate meaningful responses" to people. A number of researchers were

arguing that stereotype content reflects the values and position of one's own group (Fishman, Asch, Sherif, Allport), and may therefore serve rationalising, justifying and explanatory functions. A major step forward in stereotyping research was the recognition that stereotyping and its effects are intimately linked to the cognitive process of categorization. While Allport recognised the importance of categorization in stereotyping, it is generally acknowledged that it was Henri Tajfel's research on the cognitive aspects of prejudice that provided the impetus for a surge of theoretical work which switched the focus of stereotyping research towards cognitive processes and away from studying content. Tajfel's work led to the common view that "the basic cognitive process in stereotyping is categorization" (Tajfel, 1981, p. 148). Importantly, this work showed that cognitive processes alone (under certain conditions) could be responsible for the biases observed in stereotyping and prejudice, and it moved the view decidedly away from stereotyping as an abnormal and pathological phenomenon to a conception of it as a normal cognitive process. We now turn to a review of that work.

Categorization processes in stereotyping

While Tajfel was influenced by the work of both Allport and Sherif, his work was unique in that it was also heavily influenced by Bruner and research from the 'New Look' tradition (Oakes, 1996; Tajfel, 1980; Turner, 1996). This work was largely concerned with investigating the role of values and needs in perception and the phenomenon of perceptual overestimation. The 'New Look' took a functional view of perception, and in particular considered how values and needs of perceivers could influence their perceptions, especially estimates of physical magnitudes of stimuli. Perhaps one of the most influential and most cited studies from this research movement was that of Bruner and Goodman (1947). In this study subjects (10 year olds) were asked to make judgements of the size of both coins and of neutral grey cardboard discs. Although the coins and discs were exactly the same size, the results showed that subjects generally judged the coins to be larger, and this overestimation was greater for more valuable coins. In addition, it was found that children from poor backgrounds tended to overestimate coin size more than those from more well-off backgrounds.

The results of this study (although much debated) inspired a flurry of experimental work dealing with perceptual overestimation. Tajfel (1957) considered this phenomenon and reviewed evidence that 'motivational' or 'value' variables can have an effect on subjects' perceptual judgements of magnitude. He concluded that where stimuli in a series vary concurrently on both a physical dimension and a value dimension, then the physical magnitude of the stimuli will be overestimated. Tajfel suggested that this 'overestimation' can be better understood as an accentuation of differences in magnitude between objects that differ in value. Accentuating differences in magnitude in turn accentuates differences in value. Importantly, these effects were linked to social perception:

> Many social objects and events are sharply classified in terms of their value or relevance. When judgements concerning some quantifiable or rateable aspects of stimuli which fall into distinct categories are called for, differences in value or relevance cannot fail to influence the quantitative judgements in the direction of sharpening the objectively existing differences between the stimuli. (Tajfel, 1957, p. 202)

These ideas were later elaborated into specific predictions concerning the relationship between a 'value differential', a 'classification' and a 'physical dimension' and their influence upon absolute judgements (Tajfel, 1959b). In general terms, three points were made with respect to when differences on a physical dimension were predicted to be accentuated: (a) when variation in a physical dimension of a series of stimuli is correlated with a variation in value; (b) when a series of stimuli are classified in such a way that they fall into distinct classes; and (c) when a series of stimuli are classified in such a way that they fall into distinct classes and the classification is of inherent value or emotional significance to the perceiver (Tajfel, 1959b, pp. 20-21).

Tajfel (1959b) suggested that these principles, which apply to judgements of physical aspects of stimuli, should also apply to judgements of abstract attributes. A certain amount of evidence already existed for these predictions. For example, the Bruner and Goodman (1947) study demonstrated perceptual accentuation on a physical dimension that was correlated with a value dimension (point a above). A study by Secord, Bevan and Katz (1956) showed accentuation on a physical dimension when stimuli are divided

into categories that have inherent value for the perceiver (point c above). They had subjects judge 15 photographs, 10 of black Americans and 5 of white Americans on both physical and personality traits. Subjects were comprised of three groups. Two came from 47 students from high schools in Atlanta, who were identified as either prejudiced against blacks or neutral. A third presumably pro-black group of subjects comprised 11 members of a Jewish organisation, B'nai B'rith, which stood for 'tolerance and brotherhood'. Results showed that the prejudiced subjects accentuated physical characteristics compared to the neutral group. (While the neutral group accentuated physical characteristics more than members of B'nai B'rith this difference did not reach significance). The authors comment that: "Negroidness is a negative value, and as such is accentuated or made more pronounced by our prejudiced judges" (Secord et al., 1956, p. 82).

Likewise, a study, by Lambert, Hodgson, Gardner and Fillenbaum (1960) showed accentuation on dimensions that correlate with values. Their study concerned English- and French-speaking Canadian subjects making judgements about English and French speakers. The targets consisted of four bilingual speakers who read both English and French versions of a short passage. Subjects had to rate targets on a number of personality traits. The results showed, somewhat surprisingly, that both the English and the French subjects evaluated the English subjects more favourably, with the French subjects showing even more favouritism than the English subjects. Tajfel (1959a) argues that the classification into French and English, in the Canadian context, is correlated with socio-economic status. For the French, being the less dominant group, this division is likely to be more important or valued. Therefore, "the prediction could be made that the classification into French and English would determine larger shifts in both directions for the French group on those dimensions which are correlated with the 'value' or relevant aspect of this classification — the socio-economic status" (Tajfel, 1959a, p. 89). The results showed that the French subjects accentuated the differences between the two groups on those traits that are relevant to socio-economic status more

than the English subjects. French subjects did not show this tendency on traits not related to socio-economic status — that is non-valued traits (see also Cheyne, 1970).

Thus, evidence existed regarding the link between accentuation of differences in physical dimensions when these were correlated with differences in value. The much cited study of Tajfel and Wilkes (1963) demonstrated that these accentuation effects could occur in the absence of value differentials. The study set out to test the prediction encompassed in point (b) above. It considered how the manner in which a series is classified influences quantitative judgements. Subjects in three conditions were presented with a series of lines that differed from each other in length. In a 'classified' condition the four shorter lines were labelled 'A' and the four longer lines were labelled 'B'. In an 'unclassified' condition the lines were unlabelled, and in a 'random' condition there was no relationship between the lines and the label attached to them. Although the differences in length were a constant ratio across all three conditions, subjects in the 'classified' condition exaggerated the differences in line length between the two groups of lines compared to the other conditions. Subjects in this condition also appeared to minimise the differences in line length within each group, although this finding was not statistically significant.

This study demonstrated that when objects are divided into groups or categories that correlate with their characteristics (such as line length), the difference between the objects in terms of these characteristics is perceptually accentuated, whereas when there is no correlation between categories and characteristics this accentuation does not occur. The authors argue that the findings can be considered a "simplified exercise in stereotyping":

> An essential feature of stereotyping is that of exaggerating *some* differences between groups classified in a certain way, and of minimising the same differences within groups. It may be important to note that these effects were shown to exist in the present experiment despite the relative ease and simplicity of judgements. ... There is therefore the possibility that the phenomenon of stereotyping, occurring in situations where judgements are usually neither easy or simple and where classifications have been built through long and continuously repeated past experience, is no more than an exaggeration of the effects found in the present experiments. (Tajfel & Wilkes, 1963, p. 113, emphasis in original)

The fact that this accentuation of the similarities within groups and differences between groups was observed for non-social categories suggested that such biases were part of normal cognitive functioning and that stereotyping could be "considered as an inescapable adjunct to the human activity of categorizing. As such, it is neither 'bad' or 'good'; it is there, and presumably it serves some purpose in our continuous efforts to simplify the world around us" (Tajfel, 1963, p. 8).

The significance of these findings and the link between cognitive processes and prejudice was spelt out in more detail by Tajfel in 1969. Three cognitive processes in prejudice were discussed: categorization, assimilation (i.e., how we come to learn the content associated with social groups including our own) and the search for coherence (i.e., explaining intergroup differences). The categorization process was argued to be especially important, with its major function being to introduce simplicity and order: "the process of categorization provides the mold which gives shape to intergroup attitudes" (Tajfel, 1969, p. 91).

With respect to the link between categorization and stereotyping, Tajfel (1969), building on the Tajfel and Wilkes finding, argued that judgements of personality characteristics (as in stereotyping) are comparative judgements. Through personal and cultural experience, personality dimensions become associated with classifications of people into groups. When a classification (such as into social groups) is correlated with a continuous dimension (which personality traits can be treated as) there is a tendency to exaggerate differences on that dimension between classes and to minimise these difference within classes. It is those attributes (or personality characteristics) that are correlated with the division into distinct categories that become accentuated when we form impressions of groups (Tajfel, 1969). In the case of social stereotypes there will be "the subjective accentuation of differences in *relevant dimensions* between classes of stimuli and their subjective reduction within each class" (Tajfel, 1969, pp. 84-5, emphasis in original).

The results of the Tajfel and Wilkes (1963) study implied that the perception of differences between groups and similarities within groups (or stereotype content) reflects a correlation or association between attributes and the division into categories. Importantly, it was argued that accentuation should only occur on relevant dimensions, that is, those dimensions that are already somehow associated with the division into categories. For example, a study by Tajfel, Sheikh and Gardner (1964) demonstrated that members of an ethnic group would be perceived as more similar with respect to traits which form a part of the stereotype of that group compared to traits which are not part of the group's stereotype. Subjects listened to four interviews, a Canadian male and an Indian male discussing films, and a Canadian male and an Indian male discussing their favourite books. There were two groups of subjects. The initial group listened to the interviews and then rated each interviewee on 25 semantic differential scales. A week later, the same group of subjects rated 'People from India' and 'Canadians' on the same scales. The second group of subjects were presented with 25 adjectives taken from the scales used previously and determined by the ratings previously given, and asked to select those which they thought described most Canadians and most people from India. It was predicted that the judged differences between the 'interviewees' from the same national group should be smaller on traits judged to be typical of these groups compared to traits judged to be less typical. The results showed that individuals (interviewees) belonging to the same ethnic group were judged more similar to each other on traits that had been judged to be stereotypical of their groups than traits that were judged to be less typical of their group. Therefore, the traits which were minimised between members of the same group were those which characterise that group.

Thus, one outcome of the categorization of persons into different groups was shown to be the accentuation of differences between those groups (and the accentuation of similarities within groups) on relevant dimensions. These accentuation effects have been shown to be a robust finding in a number of subsequent studies (e.g., Doise, 1978; Eiser & Stroebe, 1972; McGarty & Penny, 1988; McGarty & Turner, 1992; Wilder, 1981, 1986) The other theoretically important effect that was found to result from the

categorization of persons into groups was discrimination in favour of ingroup members and against outgroup members. Tajfel and colleagues produced evidence that, under certain circumstances, categorization alone could produce ingroup bias. Tajfel, Flament, Billig and Bundy (1971) initially set out to discover the minimal conditions under which intergroup discrimination would occur. Schoolboys were led to believe that they were assigned to two groups on the basis of their preference for the painters Klee and Kandinsky (assignment was actually random). Subjects in each group had no interaction with either members of their own group or of the other group. They were asked to allocate rewards (in the form of points signifying amounts of money) to individuals who were identified only by a code number and their group membership. They did not allocate points to themselves and thus there was no self-interest operating. The idea was to establish a 'minimal' group baseline condition where no discrimination would occur. However, the results showed that even these minimal conditions were sufficient to produce ingroup bias. In a second study reward matrices were designed to reveal strategies that subjects might use in allocating points. The possible strategies were: (a) maximum joint profit, (b) maximum ingroup profit, (c) maximum difference in favour of an ingroup member, and (d) fairness. It was found that subjects sacrificed maximum ingroup gain in favour of maximum difference between groups when forced to chose between them. Thus their aim appeared to be gain relative to the outgroup rather than absolute gain.

The effects of minimal categorization have also been shown to hold for group representations in addition to reward allocations. Subsequent work by Doise et al. (1972) demonstrated that intergroup discrimination extended to ratings of evaluative traits. They found that subjects in minimal groups evaluated ingroup members more favourably than outgroup members. Allen and Wilder (1979) assessed the judged similarity in beliefs of ingroup and outgroup members ostensibly split on the basis of their preference for Klee and Kandinsky paintings (as per Tajfel et al., 1971). Before allocation to minimal groups subjects answered questionnaires concerning their opinions on categorization-relevant (e.g., preferred colour combinations) and -irrelevant

(e.g., social and political issues) items. After being allocated to groups they had to predict responses of an anonymous ingroup and outgroup member on the same items. Results showed that ingroup members' opinions were judged to be more similar than outgroup members to the subjects' own opinions. In addition this was found for both types of items (although slightly stronger for relevant items).

Tajfel (1972) argued that the minimal group experiments provided subjects with a virtually meaningless situation regarding which strategies they should adopt. The only guide available was the arbitrary categories provided by the experimenter. Tajfel argued that individuals use the minimal social categorizations to help them to make sense of the situation and to guide action. One effect of categorization is the tendency for objects (or persons) to be perceived as more similar within categories and more different between categories. In terms of discrimination, perceived within-group similarity becomes important when the self is included as one of these objects or persons. The knowledge that one's self belongs to a category or group is called 'social identity'. It is defined as individuals' knowledge that they belong to certain social groups in combination with the emotional and value significance to them of this group membership (Tajfel, 1972, 1978a). These ideas eventually evolved into social identity theory (Tajfel & Turner, 1979, 1986) which formalised the link between self and group to offer an explanation for the discrimination observed in the minimal group experiments. Briefly, social identity theory assumes that people are motivated to evaluate themselves positively. To the extent that group membership becomes part of their self-concept or identity they will also be motivated to evaluate their group positively; that is, they are motivated to seek a positive social identity. Social identity is defined and evaluated via social comparison. In comparing their group to an outgroup people are motivated to make their group positively distinct from the outgroup. We consider the importance of the social identity concept further in the next section.

The work of Tajfel and colleagues was crucial in demonstrating that the categorization process could result in the outcomes commonly observed in stereotyping: namely the perception of, and accentuation of, similarities and differences based on group

membership, and prejudice against outgroup members. This work implied that such phenomena could be explained with reference to cognitive processes, most importantly categorization. Thus prejudice and stereotyping could be explained without reference to pathological personality factors and could occur in the absence of conflict between groups (cf. Sherif's realistic conflict theory). Crucially, the importance of cognitive variables in the study of stereotyping was articulated and emphasised. The work implied that stereotype content is in part determined by the operation of cognitive processes and biases, and reflects correlations between attributes and categories, and the division into ingroups and outgroups. Ultimately, the influence of these findings provided the basis for later work (e.g., social cognition perspective) which shifted the focus of stereotyping research away from content and toward process, and emphasised the role of cognitive functioning in stereotyping.

Functions of stereotyping and influences on the selectivity of content

Despite the cognitive focus of much of Tajfel's work, he emphasised that stereotype content could not be understood with reference to cognitive processes alone. Tajfel (1981) criticised recent formulations of the cognitive approach to stereotyping and accounts of accentuation which had their basis in his own earlier work. He argued that these represent a theoretical retreat for two reasons: (a) they ignore the crucial role played in stereotypes by value differentials by placing too much emphasis on 'pure' cognitive processes in the functioning of stereotypes, and (b) they lack specification of the nature of the dimensions on which differences between social groups, or similarities within such groups would or would not be accentuated:

> ... clear specifications of this kind were amongst the principal aims of the earlier hypotheses. The understanding of the use of categorizations in simplifying and ordering the environment clearly depends upon these specifications. They help us to predict when and how various aspects of these categorizations fit or do not fit requirements posed by the need to systematise the information which individuals receive or select from their environment. What is equally important, they provide predictions as to when and how the various social differentiations or accentuations will or will not occur. (Tajfel, 1981, p. 152)

It is argued that we selectively accentuate similarities and differences between groups and this selectivity is determined by both individual cognitive factors and by social

context, values, group affiliations and so on. Tajfel argued that accounts of stereotyping which only emphasised individual cognitive processes could not give a complete account of the social aspects of stereotyping. He saw a need for a theory that considers the contents of stereotypes as shared by social groups. To understand the content of stereotypes (and the selectivity of dimensions of accentuation) we need to take into account the functions served by stereotyping.

Tajfel (1981) suggests five possible functions of stereotyping, two individual and three social. Broadly speaking, for the individual, stereotypes serve the cognitive function of systematising and simplifying the environment, and they serve to maintain an individual's system of social values. With respect to simplification, Tajfel (1972, 1978b) argues that the information we receive from the environment can only be dealt with if it is made to fit the background of cognitive structures which are already in existence. Tajfel (1978b), drawing on work by Piaget (1952), argues that cognitive functioning achieves a balance between accommodation and assimilation. Accommodation refers to changes in the way we organise our past experience when new information is obtained. Assimilation is the extent to which each new piece of information we receive from the environment is made to fit with the background of experience we already possess: "if this new information could not be related in one way or another to our past experience, it would remain completely meaningless" (Tajfel, 1978b, p. 304). Categorization reflects both accommodation and assimilation:

> Just as the system of categories which is used by an individual must be made to fit the environment, so the information received from the environment must be made to fit the existing system of categories. (Tajfel, 1978b, p. 306)

These two processes involve selecting and modifying information (see Allport, 1954). We select information that confirms our categories and modify information that does not, as these processes require 'least effort'.

New information is selected and reinterpreted so as to confirm and support the structure of value-loaded categories. Values are argued to be important in determining on what dimension similarities and differences are accentuated. The accentuation of differences

between categories serves to clearly discriminate between these categories. This is especially important when division into categories is associated with value differentials. The desire to preserve categories associated with values can lead to 'errors' of under- and over-inclusion (e.g., Pettigrew, Allport & Barnett, 1958; Scodel & Austrin, 1957). Tied up with committing errors of under-inclusion and over-inclusion, is the desire to maintain maximum 'separateness and clarity' of categories that are associated with values. As already discussed, the act of categorization alone can result in accentuation of differences in terms of dimensions correlated with that categorization. However, when the classification is of inherent value the accentuation effects will be more pronounced (see Lambert et al., 1960; Secord et al., 1956; Tajfel, 1959a, 1959b).

While the individual functions of simplification and value maintenance are important in stereotyping, Tajfel (1981) argues that we also need to take social functions into account to properly understand social stereotyping and the content of stereotypes. Three social functions for stereotypes are suggested in addition to the two individual ones discussed above. These functions are social causality, justification and differentiation. The first two of these are concerned with the "ideologising of social actions" and involve the role of stereotypes in explaining and justifying group actions. Social causality relates to the "search for the understanding of complex, and usually distressful, large-scale social events" (pp. 160-1). Stereotypes also function to justify actions, often those taken by our own group against outgroups. For example, the colonisation of Australia by white Europeans was partly justified by stereotyping the indigenous people as 'primitive' and 'savage'. The third social function, differentiation, refers to the desire to maintain a "positive distinctiveness of one's own group from others which are relevant to the group's self-image" (Tajfel, 1981, p. 162). It concerns creating and maintaining a value differential between one's own group and relevant outgroups.

An analysis of stereotyping which includes these social functions, and takes into account not only cognitive processes but also the relations between groups, should allow us to "make theoretical sense of the contents of ingroup and outgroup stereotypes" (Tajfel, 1981, p. 162). Our search for, and detection of, similarities and

differences in the social environment is to some extent socially directed. To understand the content of stereotypes we need to consider the group that holds that stereotype, the functions that the stereotype serves for that group and the relations that exist between that group and the group they are stereotyping. Tajfel suggested that the content of our stereotypes is intrinsically linked to our social identity as a group member. That identity or group affiliation will determine the values, norms, meanings that are important for us and determine how we see the world:

> As long as individuals share a common social affiliation which is important to them (and perceive themselves as sharing it), the selection of the criteria for division between ingroups and outgroups and of the kind of characteristics attributed to each will be directly determined by those cultural traditions, group interests, social upheavals and social differentiations which are perceived as being common to the group as a whole. (Tajfel, 1981, p. 163)

This echoes the ideas of Asch, Allport and Sherif who also argued for the role of group memberships in determining values, norms etc., which are important for determining the dimensions on which we define our own and other groups. However, social identity theory allowed for an understanding of the cognitive and social-psychological processes operating when we identify with and adopt the values and norms of our ingroup and reject those of the outgroup. While the minimal group experiments suggested that division into ingroups and outgroups could have important cognitive consequences for stereotyping, namely ingroup bias, this is not necessarily an automatic consequence of the paradigm. Importantly, the display of ingroup bias also depends on status differences between groups and whether these are seen as legitimate and stable, the importance of the dimension of comparison for group identity, and the degree to which the two groups are comparable. This suggests that ingroup bias and outgroup discrimination are not merely a cognitive by-product of categorization but depend crucially on real relationships between groups. This point is expressed by Tajfel:

> The differentiation principle .... is a dynamic process which can only be understood against the background of relations between social groups and the social comparisons they make in the context of these relations (1981, p. 162)

Discrimination should only occur on dimensions that are relevant for self-definition. The dimensions on which we stereotype an outgroup are not random or based on

objective similarities and differences but are those which we value. Part of the process of obtaining a positive social identity is to establish a relative value differential between our ingroup and a comparison outgroup (Tajfel, 1981). In this sense, the content of stereotypes is derived from those values that make us distinct from a given outgroup.

In this section we have reviewed Tajfel's argument that in order to make sense of the content of social stereotypes we need to take into account more than individual cognitive processes. The functions served by stereotypes, both individual and social, are important in determining which dimensions we select when differentiating between social groups. It is argued that those dimensions selected and accentuated will be those which fit with our background of cognitive structures and value-loaded categories, allow us to create clear value differentials between groups, allow us to make sense of and justify social relations between groups and allow us to make our group positively distinct from relevant outgroups. Thus to understand the content of stereotypes our theoretical analysis must take into account the nature of the dimensions on which differences between social groups are accentuated.

Conclusion

In this chapter we have charted the early developments in stereotyping research with respect to the implications for the formation of stereotype content. Content was the primary focus of the earliest research. However, a tension emerged concerning whether this content derived from real observed differences between groups (and was therefore to some extent valid) or whether it was largely based on overgeneralised, preconceived ideas held about groups and derived from cultural influences. The theoretical accounts of researchers such as Asch, Sherif and Allport emphasised that stereotyping and stereotype content reflect group memberships and relations between groups, thereby largely rejecting earlier personality-based accounts of prejudice.

We have reviewed Tajfel's research concerning both the role of categorization in stereotyping and the functional account of stereotype content. This work introduced many of the ideas present in contemporary accounts of stereotyping. Importantly, it

emphasised the role of cognitive processes in stereotyping and contributed to the switch in stereotyping research towards process and away from content. It provided the basis for the cognitive accounts which were to follow. In the next chapter we review those accounts. In addition, we have discussed Tajfel's criticisms of a purely cognitive approach to stereotype content and his arguments in favour of a functional approach to stereotyping which considers both individual cognitive and social factors. Contemporary accounts building on these ideas are reviewed in Chapters 4 and 5.

Chapter 3

Contemporary Approaches to Stereotype Content (I): The Social Cognition Perspective

The early approaches to stereotyping at different times emphasised both the role of individual cognitive processes, and of group- and society-based beliefs and values in determining stereotype content. These themes are echoed in contemporary approaches (from the late 1970s onwards) to stereotyping and stereotype content. These approaches can be broadly categorized into three main areas: those that have emphasised the role of individual cognitive processes in stereotyping and tended to focus on process more than content, those that have emphasised the role of social and collective factors in stereotyping and have focused largely on stereotype content, somewhat to the exclusion of process, and those that have sought to explain stereotyping as an interaction between individual cognitive and more social factors and have considered both process and content to be important. All these approaches to some extent build upon Tajfel's categorization analysis as outlined in the previous chapter and take for granted that categorization is important in stereotyping.

In this thesis, we term the first approach the social cognition perspective. We refer to research in the second area as collective perspectives and those in the third area as interactionist perspectives. Research from the social cognition perspective has arguably been the most dominant and influential in the last few decades and in this chapter we provide a review of theory and research from this approach relevant to stereotype content and its formation. While we are reviewing a range of research under the heading of the social cognition approach, it should be noted that this research does not necessarily form part of a unified theoretical perspective; however it has in common an emphasis on the role of individual cognitive processes and information-processing mechanisms in stereotyping, and shares many assumptions concerning the nature of categorization and stereotyping (Hamilton, Devine & Ostrom, 1994). The other two approaches have been to some extent critical of the social cognition perspective and in

Chapters 4 and 5 we review their criticisms and alternative views on the formation of stereotype content.

Overview and assumptions

The social-cognition approach to stereotyping has its basis in Tajfel's work which demonstrated the importance of cognitive processes, especially categorization, in stereotyping and which emphasised the simplifying function played by categorization. This perspective has emphasised the role individual cognitive processes and information-processing mechanisms in stereotyping:

> A social cognition analysis of stereotyping tries to understand the role of cognitive structures and processes in the perception of groups and group members. As such, it focuses on how an information processing system functions and how that system influences our perceptions of groups and group members. (Hamilton, Stroessner & Driscoll, 1994, p. 292)

Many social cognition theorists argue that stereotyping arises, in part, from limited information-processing capacity. Ashmore and Del Boca (1981) summarise this orientation as follows:

> ... the human capacity for processing information is limited; that is the basic rationality of humans is 'bounded' ... cognitive limitations make humans susceptible to systematic biases in processing information about people and events, and these biases contribute significantly to the formation and maintenance of stereotypes regarding social groups. (p. 29)

This position is based on the assumption that the perceptual world is too complex for perceivers to fully comprehend because we have limited cognitive capacity. Therefore, we are forced to take various cognitive shortcuts to preserve our scarce cognitive capacity. These shortcuts result in our oversimplifying the world in terms of overgeneralisation and stereotypes. However, more recently some researchers from this perspective (e.g., Fiske, 1992, 1993; Fiske & Leyens, 1997; Leyens & Fiske, 1994; Operario & Fiske, 1999) have argued that there has been an over-emphasis on errors and biases in social cognition research, and that people are 'good-enough' perceivers in that they strike a balance between accuracy and their practical, pragmatic goals. Thus, in social cognition research the metaphor used to describe the social perceiver has changed

from a 'cognitive miser' (Fiske & Taylor, 1984) to a 'motivated tactician' (Fiske & Taylor, 1991).

The social cognition approach has been marked by a distinct and deliberate shift towards studying the <u>processes</u> involved in stereotyping and away from the specific <u>content</u> of stereotypes. The cognitive processes involved in stereotyping are assumed to be universal and to be uninfluenced by the actual content of stereotypes. This change in emphasis is described as follows by Hamilton, Stroessner and Driscoll (1994):

> The social cognition approach brought about a shift in emphasis from content to process. Given the focus on process, it is assumed that stereotypes, as cognitive structures, function in the same way and have similar effects on information processing. Consequently, to identify how stereotypes affect information processing, the specific content of the stereotypes used in any given study has usually been of only secondary concern. (p. 309)

While this approach has explicitly focussed on process more than content, there are still important implications to be drawn from it concerning the nature of content and its formation. In what follows we will review this very influential approach to stereotyping with an eye to what is implied about the contents of stereotypes.

Within this approach there is a distinction made between stereotype formation and stereotype application (and by implication stereotype <u>content</u> formation and stereotype <u>content</u> application). It is generally assumed that stereotypes are stored "as pictures in our heads" (like Lippmann over half a century previously). That is, it is assumed that stereotypes are stored in memory as cognitive structures:

> From a cognitive perspective ... a stereotype can be defined as a cognitive structure that contains the perceiver's knowledge, beliefs, and expectancies about some human group. (Hamilton & Trolier, 1986, p. 133)

Stereotypes as cognitive structures have been conceptualised in a number of ways including: as abstract cognitive representations about groups, such as prototypes (e.g., Brewer, Dull & Lui, 1981) or schemas (Fiske & Neuberg, 1990; Fiske & Taylor, 1991), as containing knowledge of specific group members or exemplars (e.g., Linville, Fischer & Salovey, 1989; Smith, 1990; Smith & Zarate, 1992), or as a mixture of abstract and exemplar-based information (Judd & Park, 1988; Park & Hastie, 1987;

Park, Judd & Ryan, 1991). The implication in all these approaches is that these cognitive structures or stereotypes <u>contain</u> stereotype content (namely knowledge, beliefs and expectancies about social groups). Ascertaining stereotype content depends on assessing those beliefs that are <u>most strongly associated</u> with the representation of a group in memory (Ford & Stangor, 1992; Hamilton & Sherman, 1994; Hamilton, Stroessner & Driscoll, 1994; Stangor & Lange, 1994). The important questions with respect to content, therefore, are (a) how does stereotype content come to be associated with these stored categories/representations in the first place (how do stereotypes form?) and (b) what factors determine which content is applied to any given judgement of a stimulus (how does the stored knowledge interact with stimulus data?). Relevant to these questions are issues of the role of bottom-up (data-driven) versus top-down (theory-driven) processes in stereotyping.

In what follows we attempt to answer those questions from this perspective by considering approaches to stereotype formation, activation, application and change. Our focus is necessarily limited to examining these areas with respect to the implications for stereotype <u>content</u>.

Stereotype formation

In general, research from this perspective assumes that stereotypes form based on our direct individual observation or experience of the world around us. However, there is debate concerning how accurate that observation is. Some researchers argue that our experience is filtered and biased via cognitive processes which results in stereotypes that are oversimplified. Others suggest that our stereotypes have their basis in accurate observation and therefore contain a 'kernel of truth'. Oakes et al. (1994) argue that there have been two distinct approaches to stereotype formation from this perspective — one based on illusory correlations between behaviours and groups and one on actual correlations. We begin by considering accounts that emphasise the role of cognitive biases in stereotype formation and then discuss accounts based on actual observed correlations between behaviours and groups.

Even those who emphasise the role of cognitive biases in stereotype formation agree that stereotypes are initially based on the perception of differences between groups. However, the perception of differences between groups may not reflect actual differences between groups:

> Stereotype formation rests upon the perception of group differences, as these categorical distinctions must exist before different sets of beliefs (stereotypes) can become associated with them. By generating the initial perception of group differences, these cognitive mechanisms can constitute (or at least contribute to) the foundation of stereotype development. (Hamilton, Stroessner & Driscoll, 1994, p. 305)

As such, the categorization process is argued to play a crucial role in stereotype formation (Mackie, Hamilton, Susskind & Rosselli, 1996). However, categorization is considered to be a cognitive process that can result in certain biases in our perception of group differences. This idea draws upon Tajfel's work concerning categorization effects, such as the accentuation of differences between groups and ingroup bias, discussed in the previous chapter. Specifically it is argued that once categorized group members are seen as more similar to each other and more different to members of other groups than they actually are (e.g., Tajfel, 1969; Wilder, 1981, 1986), perceptions of the outgroup come to be more homogenous than perceptions of the ingroup (the outgroup homogeneity effect — e.g., Jones, Wood & Quatronne, 1981; Linville, 1982; Park & Rothbart, 1982; Quatronne & Jones, 1980) and differentiation between ingroups and outgroups results in ingroup bias (e.g., Brewer, 1979; Tajfel et al., 1971). Thus the mere act of categorizing can "lay the foundations upon which stereotypes may then be built" (Mackie et al., 1996, p. 46). Importantly categorization is not considered to be the same thing as stereotyping but it may lead to the development of a stereotype:

> ... categorization does not always eventuate in the formation of a full-blown stereotype. The stereotype itself evolves only when the perceiver acquires knowledge and develops a set of beliefs about that group, beliefs that are held to characterise the group in general terms. (Mackie et al., 1996)

Thus, the process of categorization may lead to the development of stereotype content based on perceived intergroup differences but differences that are somewhat overgeneralised and exaggerated. Specifically, such content may be an accentuation of

actual intergroup differences, and it may be more homogenous and more negative for outgroups compared to ingroups.

While categorization may provide the basis for stereotypes in terms of actual (if exaggerated) intergroup differences, one of the most influential accounts of stereotype formation, distinctiveness-based illusory correlation, argues that stereotypes can form even when no actual group differences exist. Illusory correlation refers to the tendency to perceive a relationship between two variables where none actually exists (Chapman & Chapman, 1967). Hamilton and Gifford (1976) have applied this phenomenon to stereotyping and argue that perceivers have a tendency to attend to distinctive or novel stimuli and to use these as a basis for categorization (see also Taylor, Fiske, Etcoff & Ruderman, 1978; Taylor, 1981). Distinctive stimuli can be either those that are numerically uncommon or those that are infrequently observed. When two distinctive stimuli co-occur, they attract attention, become more available in memory and, thus, become cognitively correlated. For example, when members of a numerically infrequent group perform uncommon behaviours, these are more likely to become associated and can lead to the development of stereotypes by producing the perception of intergroup differences where none actually exist. Once a group becomes associated with a given behaviour, this becomes a meaningful category for the perceiver and may guide future perceptions of the group.

The initial study demonstrating the operation of illusory correlation in the formation of stereotypes was performed by Hamilton and Gifford (1976). They presented subjects with 39 statements which described desirable and undesirable behaviours performed by members of two groups labelled Group A and Group B (Experiment 1). There were twice as many statements about Group A compared to Group B, twice as many desirable to undesirable statements, but the ratio of desirable to undesirable behaviours was the same for each group. Therefore, both Group B behaviours and undesirable behaviours were numerically distinct. However, there was no actual correlation between the two. Results showed that subjects overestimated the incidence of undesirable behaviours performed by Group B. They also found that this influenced their

perceptions of Group A as 'good' and Group B as 'bad'. Hamilton and Gifford conclude that the co-occurrence of distinctive stimuli produced an illusory correlation between the stimuli and that this in turn led to the differential perception of the two groups.

Hamilton and Gifford argue that these results can be extended to real life groups. For example, in American society blacks are (relatively) numerically infrequent as is the performance of extremely undesirable behaviours. Thus the negative content of stereotypes about blacks may arise based on an information-processing bias. The results of Hamilton and Gifford's study have been replicated a number of times (e.g., Acorn, Hamilton & Sherman, 1988; Hamilton, Dugan & Trolier, 1985; Jones, Scott, Solernou, Noble, Fiala & Miller, 1977; Kim & Baron, 1988; Sanbonmatsu, Sherman & Hamilton, 1987). Others have found that the effect is weakened when the stimulus groups have meaning for the subjects (Stroebe & Insko, 1989). For example, McArthur and Friedman (1980) repeated the original Hamilton and Gifford experiment but using real groups (e.g., male and females) rather than the labels A and B. Illusory correlation effects were only found when groups performed behaviours that were associated with pre-existing stereotypic beliefs. Spears, van der Pligt and Eiser (1985, 1986) presented participants with stimulus statements which were attitudes towards nuclear power, purportedly expressed by people from two towns, a larger and a smaller town. They found the perceived covariation between pro- and anti-nuclear statements and town size was influenced by participants' own attitude to nuclear power. Strong illusory correlation effects were found when own attitude was congruent with the minority position but not when own attitude was congruent with the majority, suggesting that the illusory correlation effect can be moderated by own position. Schaller and Maass (1989) have demonstrated that ingroup favouritism effects can moderate illusory correlation effects. They found that when the minority group was also subjects' ingroup they no longer perceived a correlation between that group and numerically infrequent, negative behaviours. Rather they exhibited an ingroup bias. Schaller and Maass suggest that motivational as well as cognitive factors are important in stereotype formation.

Haslam, McGarty, Oakes and Turner (1993) have also demonstrated effects for social identity as well as comparative context in the illusory correlation paradigm. An illusory correlation experiment was run in which the two stimulus groups were identified as coming from different pairs of cities (Canberra, Perth or Detroit in six pairings with each city as the majority group and the minority group once per pair). Canberra was the city which subjects came from and thus represented a national and urban ingroup. Perth, another Australian city, represented a national ingroup and an urban outgroup. Detroit represented a national and urban outgroup. They found evidence of the illusory correlation effect when the subject's ingroup (Canberra) was the majority in pairings with both Perth and Detroit, and the effect was attenuated when Canberra was the minority group in these pairings (consistent with Schaller & Maass, 1989). However, they also found the illusory correlation effect when Detroit was the majority group and paired with Perth, despite the fact that Perth represented a national ingroup and therefore subjects might be expected to display ingroup bias (likewise, the effect was attenuated when Detroit was the minority paired with Perth).

This finding is explained in terms of the 'black-sheep effect' (see Marques, 1990; Marques & Yzerbyt, 1988; Marques, Yzerbyt & Leyens, 1988). Drawing on social identity theory, the nature of the effect is that under conditions where intragroup and intergroup comparisons are made simultaneously, poor exemplars of the ingroup will be 'psychologically alienated' in order to preserve overall ingroup positivity. Haslam et al. (1993) argue that in their experiment conditions of simultaneous intragroup and intergroup comparisons hold (in the Perth-Detroit pairings, subjects are making explicit intergroup comparisons between Australia and the USA and implicit intragroup comparisons between Perth and Canberra). Likewise, they argue that at the time the experiment was conducted Perth was seen very negatively in Australia (because of various government corruption scandals) and thus represented a negative exemplar of the ingroup 'Australian'. Thus, in the Perth-Detroit pairings subjects were motivated to see the Detroit group more positively than the Perth group. The authors suggest that neither the illusory correlation effect or ingroup bias are inevitable and that both are

"sensitive to, and critically shaped by, the comparative and normative context of their production" (Haslam et al., 1993, p. 4).

Other explanations for illusory correlation effects have also been suggested which challenge the role played by distinctiveness and selective attention. Fiedler (1991) proposes that the effect may be due to selective information loss that occurs when information of varying frequencies is processed. He argues that subjects in the illusory correlation paradigm show regression towards the mean in terms of their estimates of frequencies. Low frequencies are perceived as higher than they really are and vice versa for high frequencies. This effect is especially marked for estimations based on small numbers of observations as in case for the minority group and the negative behaviours in the usual illusory correlation paradigm. Thus, according to Fiedler, it is the greater uncertainty in estimating the frequency of these infrequent events which contributes to the illusory correlation effect, rather than their joint distinctiveness. Smith (1991) has demonstrated, using computer simulations, that subjects in the illusory correlation paradigm are sensitive to the difference between the number of positive and negative behaviours recalled rather than the ratio of positive to negative behaviours. Because more positive behaviours are recalled about the majority group, they come to be seen as more positive than the minority. Thus, he argues that the effect can be explained without reference to biased memory processes. Likewise, McGarty and colleagues (Haslam, McGarty & P. Brown, 1996; McGarty, Haslam, Turner & Oakes, 1993; McGarty & de la Haye, 1997: see also Berndsen, 1997) have offered an alternative explanation for illusory correlation effects in terms of the search for a meaningful differentiation between groups (to be reviewed in Chapter 5).

Explanations of stereotype formation based on distinctiveness-based illusory correlations focus on stereotyping processes. For this model the specific content of a stereotype is almost superfluous to the analysis — it seems purely fortuitous that a certain distinctive behaviour becomes associated with a certain group. The explanation states that infrequent behaviours (which tend to be negative) will be associated with minority groups which implies that the content of minority group stereotypes is likely to

be negative because of the manner in which these stereotypes are formed. However, it has little to say about the content of majority group stereotypes. Importantly, the model implies that stereotype formation (and the formation of stereotype content) can be the result of cognitive processes and biases <u>alone</u> and need not be based on any <u>real</u> differences between groups.

Another cognitive bias implicated in the formation of stereotypes is the correspondence bias or fundamental attribution error (Mackie et al., 1996). This bias refers to the tendency for perceivers to favour dispositional over situational attributions for the causes of behaviour (Ross, 1977):

> Because the correspondence bias involves the spontaneous process of inferring dispositional characteristics, and because stereotyping involves the perception of groups in terms of such attributes, the correspondence bias seems likely to be a particularly powerful mechanism in stereotype acquisition. (Mackie et al., 1996, p. 48)

This bias may cause perceivers to ignore the role of situational or role constraints in determining behaviour and to attribute such behaviour to underlying personality dispositions that may be associated with group memberships. Correspondence bias has been attributed to the idea that the actor's behaviour is more salient than the situation and therefore more attention is paid to dispositional than situational causes. Another explanation is that we have a societal norm for internality such that internal attributions are viewed more favourably than external ones (Jellison & Green, 1981). Cross cultural research has shown the fundamental attribution error may be partially culture specific with the tendency to over-attribute to dispositional causes being more prevalent in western versus eastern cultures (Miller, 1984; Morris, Nisbett & Peng, 1995; Morris & Peng, 1994).

Pettigrew (1979) has proposed an 'ultimate attribution error' whereby attributions tend to favour ingroup members over outgroup members because of an ethnocentric bias. It is argued to operate such that the tendency to make internal or dispositional attributions (as per the fundamental attribution error) is enhanced if an outgroup member is performing a negative act. In such cases, Pettigrew argues, internal causes will often be

seen as 'innate characteristics' and external or situational causes for behaviour will be overlooked. Hewstone (1990), in a review of the intergroup attribution literature, found some support for Pettigrew's proposal specifically: (a) a tendency to attribute outgroup (compared to ingroup) failure more to internal causes and the 'explaining away' of outgroup success to external factors, and (b) a preference for ingroup- versus outgroup-serving attributions for group differences. Hewstone notes that "these intergroup attributions may help to form and maintain stereotypes ... and even, ultimately, form the basis of an ideology that ascribes group differences to genetic characteristics" (1990, p. 331; see also Allport, 1954).

A position somewhat similar to both correspondence bias and the ultimate attribution error is put forward by Yzerbyt, Rocher and Schadron (1997). They propose a "syndrome of essentialistic categorization" — that is, categorization based on the notion that surface attributes of group members reflect deeper underlying essences (based on Medin & Ortony's idea of psychological essentialism[1], 1989, and Rothbart & Taylor's, 1992, application of it to social categories[2]). The belief that surface attributes reflect deeper attributes, such as underlying dispositions, is argued to encourage categorization effects such as the accentuation of differences between groups, and as such may contribute to the formation and maintenance of stereotypes. However, being guided by essentialistic theories may not result in accurate perception of intergroup differences:

> ... subjective essentialism induces the belief that social categories differ from one another ... a stronger hypothesis also entails the possibility that differences in perception arise despite the absence of a factual basis or that actual differences remain unnoticed simply because they do not fall under the umbrella of a unifying theory. (Yzerbyt et al., 1997, p. 42)

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[1] Medin and Ortony (1989) define psychological essentialism as "the idea that ... surface features are frequently constrained by, and sometimes generated by, the deeper, more central parts of concepts" (p. 180). They argue that people act as if things have essences and that they tend to adopt an essentialist heuristic such that they believe that things which look alike will share deeper properties.

[2] Rothbart and Taylor (1992) suggest that we tend to view social categories as natural kinds; that is categories that have underlying essences, like a biological or genetic basis, that are fundamental to category membership. Treating social categories as natural kinds means that surface attributes are seen to imply underlying attributes and that categories are seen as being mutually exclusive such that inter-category differences are exaggerated.

Likewise, reliance on an essentialistic theory may result in an overreliance on dispositional factors at the expense of situational factors. Underlying essences are likely to be linked to dispositions or personalities. Thus when we observe that two groups differ from each other in terms of some surface attribute, such as skin colour, we may infer that they also differ in terms of deeper dispositions and therefore form stronger stereotypes about them. Thus, stereotype content may form to reflect underlying dispositions that do not actually exist but that are linked to surface features.

Work by Dweck and colleagues (Chiu, Hong & Dweck, 1997; Dweck, Hong & Chiu, 1993; Dweck, Chiu & Hong, 1995a, 1995b; Levy & Dweck, 1998; Levy, Stroessner & Dweck, 1998) suggests that the tendency to use dispositional versus situational explanations may be influenced by our implicit theories of personality. For example, Dweck et al. (1995a) distinguish between what they call "entity theorists" and "incremental theorists". Entity theorists believe that traits are fixed dispositions and they tend to show an overreliance on dispositional information when making judgements and decisions. In contrast, incremental theorists believe traits are malleable, that is, they "can be changed and developed" (Dweck et al., 1995a, p. 267). The different theories represent different models about how personality works and "entity and incremental theorists may encode and organise incoming social information in different ways" (p. 281). Levy et al. (1998) carried out a set of studies which demonstrated differences in social stereotyping between persons holding entity versus incremental theories. They argue that "entity theorists appear particularly prone to engage in processes similar to those involved in stereotyping" (p. 1421). In Experiment 1 they found that although entity and incremental theorists (as determined by a questionnaire) had the same knowledge of ethnic stereotypes, entity theorists endorsed the stereotypes more strongly than did incremental theorists. In Experiment 3, participants were presented with novel groups described by either predominantly positive or predominantly negative statements. Entity theorists drew more extreme trait judgments from the limited information and also perceived the groups to be more homogenous than did incremental theorists. In Experiment 4 Levy et al. sought to

establish a causal relationship between types of theories and level of stereotyping by manipulating people's theories. They found that those participants 'induced' with an entity theory showed more endorsement of ethnic and occupational stereotypes compared to those 'induced' with an incremental theory. The authors conclude that those people who hold entity theories are more likely to exhibit stereotyping. Thus according to Dweck and colleagues, implicit theories of personality have a crucial role to play in the development of stereotypes:

> Although stereotyping and prejudice may serve a variety of goals (self-esteem goals, need for a scapegoat), our work suggests that individuals may not even need these special goals to display these tendencies ... Instead, our findings suggest that these tendencies may arise spontaneously, because they are so clearly related to how entity theorists understand and react to the social world. (Dweck et al, 1995b, p. 330)

Thus stereotypes may form to reflect a certain theory of personality. While the type of theory endorsed appears to be conceptualised as an individual differences variable (see Levy & Dweck, 1998) it is also acknowledged that "people's implicit theories are not rigidly fixed but are themselves malleable" (Levy et al., 1998, p. 1431).

The accounts of stereotype formation discussed so far have been largely been based on the role of cognitive biases in stereotype formation and the idea that we may accentuate or misperceive differences between groups and form stereotypes based on these exaggerated or illusory differences. Likewise, others argue that we may (often mistakenly) attribute group differences dispositionally and thus form stronger associations between social categories and certain behaviours. Therefore, stereotype content forms to reflect perceived differences between groups; however, these perceived differences may exaggerate or misrepresent real differences. The formation of stereotype content is implied to be strongly determined by the operation of individual, biased cognitive processes. Other accounts of stereotype formation argue that, rather than resulting from cognitive biases, stereotypes may form to reflect actual observed differences between groups. In this sense, these accounts have much in common with the 'kernel of truth' position discussed in the previous chapter. We now turn our attention to these accounts.

One theory of stereotype formation which argues that stereotypes are based upon <u>real</u> observed correlations between groups and behaviours, rather than illusory ones is Eagly's (1987; Eagly & Steffen, 1984, 1986) social role theory of gender stereotypes. This theory states that such stereotypes arise from the observed distribution of men and women into different social roles. Gender stereotypes reflect the observed social role-gender correlation in our society where women have traditionally been homemakers/ childraisers and men have traditionally been breadwinners. These roles have certain traits associated with them — homemakers are seen to be communal and breadwinners are seen to be agentic (Bakan, 1966). Eagly argues that because people have observed women to be predominantly homemakers and men to be predominantly breadwinners, the traits associated with these roles have come to be associated with women and men respectively. Thus, stereotypes about gender stem from and reflect <u>actual</u> socio-structural relationships. However, in common with the correspondence bias, these stereotypes may reflect an overattribution to personality factors rather than situational factors (namely the roles women and men are in).

A 1984 study by Eagly and Steffen demonstrated that social role information had an overriding influence in impression formation. Subjects read a brief description of a target person which varied according to the target's gender and social role (full-time employee, homemaker or no occupational description). Subjects rated a single target on a series of agentic and communal traits. The results showed that 'average' men and women (i.e., no occupational description) were rated stereotypically — women high in communion and low in agency and men vice versa. However, once social role was specified, women and men occupying the same role were rated equivalently. This suggests that stereotypes were based upon gender-social role correlation rather than upon gender per se. It also suggests that the content of gender stereotypes derives from and reflects social role structure.

Alternative views regarding these results have been proposed. Schaller (1992) suggests that the Eagly and Steffen (1984) study shows that stereotypes may result from the failure of people to engage in an "intuitive analysis of covariance". The powerful

correlations that exist between gender and social role, and between social role and observed behaviour, leads to a spurious correlation between gender and behaviour. Schaller, however, argues that people can use more complicated inference strategies if they are motivated to do so. One of these motivations can be a desire to see the ingroup positively. Schaller presents evidence that people do use more complex inference strategies when these will lead to a positive impression of their ingroup. He demonstrates this for both 'pre-existing' groups (e.g., gender) and for 'novel' groups. The results are taken as evidence that group membership and group-enhancement motives may influence the inference strategies used in stereotype formation.

Likewise, Hoffman and Hurst (1990) present an alternative view of gender stereotype formation in direct response to the work of Eagly and colleagues. They argue that gender stereotypes do not just reflect the current social structure but rather are attempts to rationalise it (see Tajfel, 1981). Given this, gender stereotypes extend beyond the persons who occupy the appropriate social roles to all persons of that gender. They had subjects read descriptions of persons from two fictional categories (Ackmians and Orinthians) that were constructed to reflect the traditional social roles of men and women. One category (an analogue of the male gender) was described as comprising of 80% city workers and 20% childraisers, and another category (an analogue of the female gender) had the percentages reversed. However, the persons in the categories did not actually differ in terms of their personality with each person being described by one agentic, one communal and one neutral trait. Each subject then rated four target persons on communal and agentic traits: a 'cityworker' and a 'childraiser' from each of the two constructed categories. They found that subjects formed stereotypes of the two groups based upon the social role-category correlation despite the fact that there were no personality differences between the groups, and that these stereotypes persisted even when social role information was specified. Thus, they argue, the content of gender stereotypes forms not just to describe the existing social role distribution but rather to rationalise it. Hoffman and Hurst also argue that their analysis may apply to social categorizations besides gender.

The work of both Eagly, and Hoffman and Hurst, in contrast to the illusory correlation research, argues that stereotype content is based on beliefs about social roles that are shared within society, and that these beliefs reflect aspects of society. Hoffman and Hurst suggest that stereotype formation "is not purely an information processing phenomenon" (p. 206). Eagly and Steffen (1984) argue that while illusory correlation research has shown a relationship between minorities and distinctive behaviours, in their research men and women are allocated the attributes that correspond to the roles that they actually occupy: that is, the correlation is real rather than illusory. Eagly implies that stereotype content reflects the structure of society and thus contains a 'kernel of truth'. Hoffman and Hurst imply that content rationalises and maintains the social structure even if it no longer exists. They are inclined to suggest that rather than containing a kernel of truth, stereotype content is largely a biased representation of reality.

Jussim (1990; 1991; see also Lee, Jussim & McCauley, 1995) also argues that stereotypes may to some extent be based in accuracy. His 'reflection-construction' model considers the relation between perceivers' beliefs and expectancies about targets' attributes and behaviours, and those targets' actual attributes and behaviours. The model starts with background information "which refers to anything on which perceivers might base their beliefs (e.g., targets' past behaviour or targets' social group membership, achievement or personality test scores, rumour and hearsay etc.)" (Jussim, 1990, p. 56). Jussim argues that to the extent that background information accurately predicts targets' behaviour and attributes independently of the perceiver, then expectations based on that background information may also result in judgements that accurately reflect actual behaviour and attributes.

In a more extreme version of the 'kernel of truth' hypothesis Zebrowitz (1996), drawing on McArthur and Baron's (1983) ecological theory of social perception, argues that physical appearance may determine the content of some stereotypes. She suggests there are actual correlations between some physical features and personality traits, such as between attractiveness and social competence, and therefore "accuracy may be one basis

for stereotypes about groups that differ in appearance" (p. 88). However, while stereotype content may reflect real differences between groups in some instances it may also reflect "the overgeneralisation of accurate beliefs about the behavioural propensities of individuals who physically resemble the group members" (p. 89).

Another outlook on stereotype formation that considers the actual correlation between attributes and groups to be the basis of stereotype formation is outlined by Ford and Stangor (1992; cf. Campbell, 1958; Campbell, 1967; Tajfel, 1969; Turner, 1985). They propose that in forming stereotypes about social groups:

> ... people abstract the central tendency and variability of different attribute dimensions to determine which ones best differentiate the groups and .... the more differentiating dimensions are more likely to become stereotypical in the sense of becoming strongly associated with the groups in memory. (p. 356)

They report a series of studies aimed at testing this proposal. In a first study they had subjects form impressions of two groups that differed in terms of both intelligence and friendliness. In one condition, the differences in group means were larger for intelligence than friendliness while in the other condition this was reversed. Stereotype content was measured in two ways: (a) in terms of trait ratings, which Ford and Stangor argue is one of the traditional ways of doing so, and (b) by asking subjects to write down four thoughts associated with the group and from these finding an index of strength of association between attribute dimensions and group labels. In terms of trait ratings subjects differentiated the groups in terms of both intelligence and friendliness but more so in terms of intelligence in the first condition and more so in terms of friendliness in the second condition. The associative strength measure showed that subjects generated more thoughts about the groups in terms of the attribute dimension that represented the larger differences in means between the two groups. The authors argue that although both attributes were available to subjects to represent the groups, subjects spontaneously characterised the groups in terms of the attributes that most differentiated between the groups.

A third study was performed similar to the first one except that groups differed in their variability regarding intelligence- and friendliness-related behaviour but were the same

in terms of their means. Results, although not conclusive, suggested that group stereotypes were likely to be formed on attribute dimensions for which there was low within-group variability. The authors conclude that in forming stereotypes we focus on dimensions that are most diagnostic for differentiating groups. Stereotype content forms to reflect correlations between categories and attributes (see work by Tajfel as covered in the previous chapter; Campbell, 1967; Turner, 1985). Ford and Stangor comment that, unlike the illusory correlation paradigm, their research does not assume that stereotypes are based on the faulty perception of intergroup differences but rather that they may contain a 'kernel of truth'; that is, real differences exist between social groups and these drive stereotype formation. They state that a basic assumption for their research is that stereotypes are formed via direct observation of behaviours performed by members of social groups (p. 365). In this sense, this idea is similar to that proposed by Eagly (1987; Eagly & Steffen, 1984, 1986). However, while intergroup contact may be the fundamental determinant of stereotype content formation, they acknowledge that other factors may also be important. The perceiver's motivation or processing goals when forming impressions of social groups may come into play. Attribute dimensions that come to form the stereotype may be those that positively distinguish the ingroup from the outgroup rather than those that maximally differentiate the groups (Ford & Tonander, 1995).

All the accounts of stereotype formation reviewed suggest, to some extent, that stereotype content is based on direct observation and experience with group members, whether that observation and experience is accurately represented or filtered by cognitive biases. Stangor and Schaller (1996) suggest that there has been a focus on the 'bottom-up' determinants of stereotypes and stereotype content. Stereotype content is assumed to be learned via direct contact with members of other social groups. The emphasis is very much on the influence of individual cognitive processes in stereotype formation. While the role of cultural and social mechanisms in the formation of stereotype content have been acknowledged by researchers from the social cognitive perspective (e.g., Mackie et al., 1996) the treatment of these factors has often been

somewhat cursory and vague. For example, it is suggested that stereotype content may be culturally transmitted via the media and family, via processes of social learning, or that stereotypes may reflect conformity to social norms, but these processes themselves are not clearly articulated (Mackie et al., 1996 — although the accounts of Eagly, and Hoffman and Hurst acknowledge the influence of socially-shared knowledge about social roles). In general, from this perspective stereotype content is argued to become initially associated with a given social group via the individual perception of group differences — whether these differences be real, derived from social roles and social structure, accentuated via the categorization process, based on illusory correlations or real correlations, or reflecting theories about underlying dispositions. In the next section we consider how this content, once associated with a given social group, comes to be applied to social judgement.

The activation and application of stereotype content

The social cognition approach to stereotyping assumes that stereotypes, once formed, are represented cognitively in a relatively fixed form waiting to be activated (Stangor & Lange, 1994; Stangor & Schaller, 1996). Likewise, these stereotypes are assumed to contain, or be cognitively associated with, content — beliefs and expectations about social groups. These stereotypes (and associated content) may or may not be used as the basis for subsequent judgements. In simple terms, the activation and application of stored stereotype content to a judgement is argued to depend largely upon how a given stimulus is categorized which in turn is determined by the perceived similarity or fit between features of the stimulus and the specifications or features of the stored category. However, seeing a stimulus object in categorical terms is argued to be the most cognitively economical option for perceivers and so stereotypes tend to act in favour of their own confirmation. That is, there are biases in the encoding and recall of stimulus information that tend to favour a match with an activated category. Once a fit or match between a stimulus and a stored category is deemed to exist, the content applied to judgements of that stimulus is derived from the stored category. Thus, 'top-

down' processes are argued to dominate in stereotype application. We now look at these processes in more detail.

Before stored stereotype content is activated the stimulus person must be categorized. Categorization is argued to be prior to stereotyping (e.g., Fiske & Neuberg, 1990).

> Any group judgement process must be preceded by an initial act of social categorization. That is, before a group stereotype can be activated and used in one's perceptions of another person, that target person must be categorized as a member of the group. (Hamilton & Sherman, 1994, p. 16)

As discussed earlier, stereotypes are argued to be represented in memory in the form of either abstract representations such as prototypes or schemas, as exemplars, or as some combination of both. Stangor and Lange (1994) argue that the majority of researchers (at least from the social cognition tradition) now agree that stereotypes are mental representations and that there is "basic agreement that stereotypical characteristics are associated with group labels in semantic memory through mental associations" (p. 362). They argue for an associational model of social-group representation in which such a representation consists of a category label and a number of mentally associated stereotypes. These stereotypes become activated in memory by exposure to category labels (see 'spreading activation' model, Collins & Loftus, 1975).

The impression formation models of Fiske and Neuberg (1990) and Brewer (1988) assume that categories are abstract representations such as schemas or prototypes. A schema is "a cognitive structure that represents organized knowledge about a given concept..." (Fiske & Taylor, 1984, p. 140). Schemas exist at the individual level and are argued to act so as to guide perceivers toward relevant information and encourage them to resolve inconsistencies with the schema (Leyens & Fiske, 1994). In these models categorization of a stimulus object depends on its level of similarity to the category prototype or schema:

> Before people can apply their schemas, they have to know what category fits the specific stimulus they encounter. Categorization processes describe how we classify and identify individual instances as members of larger familiar groupings ... category members are related by family resemblance. (Fiske & Taylor, 1991, p. 139)

Smith and Zarate (1992) in their exemplar-based model of social judgement argue that abstract, group-level knowledge is only minimally important and that information about persons is stored as a number of exemplars. Again categorization is explained in terms of the perceived similarity between the stored exemplar and features of the stimulus. However, this similarity is not seen as a fixed, context-independent feature of the stimulus but depends on how the perceiver processes and interprets the stimuli and this, in turn, depends on the theories they hold about the stimuli and their relationships with other stimuli. Exemplars are not considered to be 'copies' of the stimulus that was present but rather they are memory traces of the stimulus as interpreted by the perceiver.

The initial categorization of a target stimulus depends upon a number of factors and is argued by some to be a relatively automatic process. For example, Brewer (1988) in her dual process model of impression formation argues that the first stage of impression formation involves the automatic identification of the stimulus in terms of some well established dimension such as sex, race or age. Devine (1989) has also argued for the automaticity of some stereotypes. She showed that the non-conscious priming of category labels, such as Black, and terms related to the stereotype of blacks activated the stereotype and influenced the subsequent ratings of a race-unspecified target. Likewise, Fiske and Neuberg (1990), in their continuum model of impression formation, argue that the first stage of impression formation involves initial categorization based upon categories that are chronically accessible (such as sex, race or age), or those that are cued by a category label or by novelty or physical appearance. Distinctive cues are argued to allow a perceiver to make a judgement with least cognitive effort. Taylor (1981; Taylor, Fiske, Etcoff & Ruderman, 1978) has proposed a distinctiveness or novelty principle: that relatively novel stimuli will automatically attract attention and serve as a cue for categorization. For example, Taylor et al. (1978 — Experiment 3) varied the sex composition of a six person target group from all females (or males) to a solo female and five males (or a solo male and five females). They found that subjects attributed more sex-typed roles to males and females the fewer there were in the group; that is, stereotyping on the basis of sex was more likely to occur

when sex was distinctive (however, see Oakes & Turner, 1986, for an alternative view of these results; see also studies by Abrams, Thomas & Hogg, 1990; Nesdale, Dharmalingam & Kerr, 1987).

The relative accessibility of categories is argued to be important at the initial categorization stage. The idea of accessibility was first introduced by Bruner (1957) who proposed that the readiness to use a given category was determined by the perceiver's past experience and present goals and motives. Work by Higgins and King (1981) has suggested that categories that are either used frequently or have been used recently tend to be more accessible. It is suggested that certain categories which we use very often, such as sex, race and age, may become chronically accessible (Brewer, 1988; Fiske & Neuberg, 1990). More recently, Higgins (1996) has made a distinction between the availability, accessibility and applicability of a category. Availability refers to whether the category is actually available in memory, whereas accessibility refers to the potential for that category to be activated. Applicability is more closely related to fit and refers to the relation between the stored category and features of the stimulus. Stangor and Lange (1994) argue that the activation of a social category depends upon both contextual and perceiver characteristics. Contextual characteristics include aspects of the stimulus such as distinctiveness or whether it belongs to a chronically accessible category. Perceiver factors include individual differences in chronically accessible categories. They argue that more informative representations are more readily activated and that stereotypes are more likely to be activated when information processing capacity is limited. Once a category label is primed, the associated stereotype should be activated via spreading activation.

Thus the initial activation of a social category is argued to be determined by salient cues (such as novelty), priming of categories via labels, and relative accessibility of categories which may be influenced by the recency and frequency of previous activation, individual differences in category accessibility and by the perceiver's goals (Brewer, 1988; Bruner, 1957) and mood (Fiske & Neuberg, 1990). It is not entirely clear what role fit plays in initial categorization although it would seem that there must

be some rudimentary match between features of the stimulus and the activated category at this stage, even if categorization is automatic. Hamilton and Sherman (1994) suggest that when categorization is relatively automatic "the 'similarity matching' process ... relies on a single salient cue rather than on resemblance to the group stereotype" (p. 18). Spears and Haslam (1997), discussing Fiske and Neuberg's (1990) continuum model, argue that categorization in this model is separate from and prior to perceived fit, "but may be undone by it" (p. 206).

While initial categorization of a stimulus may be based on highly distinctive cues, priming or accessible categories, the confirmation of this initial category is argued to depend upon the match or fit between this category and attributes of the stimulus. The initial categorization guides subsequent perception and is confirmed whenever possible (Leyens & Fiske, 1994). Fiske and Neuberg (1990) posit a continuum of impression formation from categorical, top-down processes to individuated, data-driven processes. They argue that movement along a continuum from category-based impressions to more individuated impressions is determined by the interpretation of category-attribute fit. Confirmation of an initial category is likely to occur when: (a) the category is accompanied by traits interpreted as consistent, (b) the category label is accompanied by attributes interpreted as mixed, or (c) a well-established category label is accompanied by attributes interpreted as irrelevant to the category label and the judgement at hand (p. 27). If the characteristics of the stimulus do not fit the initial categorization — that is, if they are not consistent with that category or not interpreted as similar to features of that category — the perceiver moves on to recategorization. Recategorization will occur when: (a) target attributes are irrelevant to the category and the judgement at hand and the category is not a strongly established one, or (b) target attributes are clearly inconsistent with the category. Piecemeal integration is argued to occur when the target attributes are present in the absence of any clear-cut category and they do not easily cue one (Fiske & Neuberg, 1990). Fiske, Neuberg, Beattie and Milberg (1987) report evidence to suggest that category-based impressions are more likely to occur when there is a consistent match between category labels and attributes. Subjects were presented

with stimulus individuals described in terms of an occupational category label and a number of attributes either consistent or inconsistent with that label. Subjects formed more category-based impressions in the consistent conditions and more attribute-based impressions in the inconsistent conditions.

In Brewer's (1988) dual process model of impression formation, after initial categorization, processing may take two alternative paths: either person-based and data driven, or category-based making use of a prior category structure. Which path is taken will depend on the level of personal self-involvement. If the perceiver feels somehow involved with the stimulus object subsequent processing will be person-based and data driven. Otherwise, further processing will be category-based and top-down. With category-based processing, "impressions are based on an active categorization process in which available 'person types' are matched to the information given about the new person" (Brewer, 1988, p. 17). The search begins at the most inclusive level of categorization and continues through increasingly specific subtypes until an adequate fit is achieved. The search is constrained by the initial classification (e.g., sex) which once activated increases the likelihood for a match between incoming stimulus information and the category prototype (Brewer, 1988). Once a satisfactory categorization of a stimulus person has been achieved, this categorization will influence subsequent processing.

If category-based processes are employed, then both models argue that the subsequent content associated with a judgement comes from that prior category:

> In many situations ... perceivers relate the target individual to preexisting categories and they utilise the contents of these categories to form their beliefs ....
> (Fiske & Neuberg, 1990, p. 15)

Importantly, categorization is considered to be the default option and the most cognitively economical path to take. It is easier to use the stored category and contents if possible rather than paying attention to an individual's attributes. However, reliance on categorization is argued to come at a cost of decreased accuracy in stereotype content:

Categorization by definition generalises beyond the individual case and thus introduces error, to the likely extent that the individual is not the prototype of the category. (Fiske & Neuberg, 1990, p. 62)

Thus individuation is argued to be more accurate than categorization and therefore preferable (see Oakes & Reynolds, 1997, for an alternative viewpoint). Brewer's model also assumes that category-based impressions are less accurate than personalised impressions:

Category-based encoding is problematic to the extent that relevant information about an individual is either lost or misrepresented in the categorization process. (Brewer, 1988, p. 28)

While the activation and use of stored stereotype content is argued to be based on the similarity between the stimulus and the category, there is considerable evidence that stereotypes tend to bias perception in favour of their own confirmation. A large amount of literature considers how these cognitive categories or schemas, once activated, can bias the encoding and recall of information, so that data is remembered and interpreted so that it fits the pre-existing structure. Therefore, top-down processes tend to dominate. This is argued to be especially true for passive processing, which tends to occur unconsciously and leads to the assimilation of new information into existing stereotypes (Stangor & Lange, 1994). However, it is argued that active processing, where the perceiver becomes aware of the activation of the stereotype, may lead to either the assimilation of new information or to the accommodation of the stereotype to fit the new information. Under active processing conditions, individuals may focus more on stereotype-inconsistent information. Much research looks at how we deal with information that is clearly inconsistent with or disconfirms our expectancies (i.e., does not fit). Stereotypes are considered to be highly resistant to change and to persist even in the face of contradictory information. Evidence to support this view is of the kind showing that social categories can bias attention to, encoding of, memory for and recall of information so as to confirm the original social categorization.

Numerous studies have shown that subjects are more likely to interpret ambiguous information in line with their expectancies and can interpret the same behavioural act differently when performed by members of different social categories. For example, in a

classic study by Duncan (1976) white subjects observed one person giving another an ambiguous shove. This act was interpreted as being violent when there was a black person shoving a white person but was more likely to be seen as 'playing around' when a white person was shoving a black person. Likewise, subjects were more likely to make personal attributions for the act when the perpetrator was black, and to make situational attributions when the perpetrator was white. In a similar study Sagar and Schofield (1980) found that school children interpreted the same ambiguous behavioural act differently when the race of the actor was varied, with the act being interpreted as more mean and threatening if the actor was black as opposed to white (see also Bodenhausen & Wyer, 1985; Darley & Gross, 1983). It appears that ambiguous information is often interpreted so that it fits our expectancies or schemas. Thus it appears that our stereotypes (in these cases racial stereotypes) can influence and bias how we interpret what we observe.

Our expectancies about social categories can also impact on the behaviour of those we are interacting with and bias their behaviour in an expectancy-confirming way. This was demonstrated in a study by Snyder and Swann (1978). Subjects were led to believe that the person they were about to interview was either an introvert or an extrovert. The subjects' task was to assess the target person's personality and to this end they could select questions to ask them from a possible range. Subjects who thought they were interviewing an extrovert were more likely to select questions that would produce extroverted responses whereas those expecting introverts chose questions more likely to elicit introverted responses. Furthermore the targets, constrained by the questioning strategies of the interviewers, tended to present themselves in ways consistent with the interviewers' expectations. Thus expectancies tend to become 'self-fulfilling prophecies' which influence the behaviours of others in expectancy-confirming ways.

As well as interpreting ambiguous information in a stereotype-consistent fashion, and influencing the behaviours of others in an expectancy-confirming way, there is also evidence to suggest that in recall we make preferential use of information that is consistent with our stereotypes as opposed to inconsistent. A number of studies (e.g.,

Cohen, 1981; Hamilton & Rose, 1980; Snyder & Uranowitz, 1978; Taylor & Crocker, 1981; Zadny & Gerard, 1974) have found that subjects given social categorical information about targets are more likely to recall information consistent with that social category compared to inconsistent information. For example, Cohen (1981) found subjects recalled different information about a target woman in a video depending on whether she was identified as a librarian or a waitress. Those thinking she was a librarian were more likely to recall information consistent with that occupation, such that she wore glasses, while those thinking she was a waitress recalled information consistent with that role, such that she had been drinking beer. This recall preference has been demonstrated for 'novel' groups as well as pre-existing stereotypes. Rothbart, Evans and Fulero (1979) gave subjects the expectancy that a group of targets were either friendly or intelligent, and then presented them with behaviours performed by the targets that were either positively or negatively related to friendliness or intelligence, or unrelated to friendliness or intelligence. When the expectancy preceded the behavioural information subjects recalled more behaviours consistent with the expectancy and estimated that these behaviours were more frequent than inconsistent behaviours.

However, there is some debate over whether stereotype-consistent (and confirming) or stereotype-inconsistent information is more likely to be recalled, and under what conditions. Some researchers have argued that expectancy confirming processes do not always operate and have attempted to identify the conditions under which they will or will not be important. For example, Hastie and Kumar (1979) presented subjects with statements describing behaviours performed by target individuals who had previously been described by a series of adjectives. Behaviours were either consistent, inconsistent or neutral with respect to the individual's personality. Subjects showed stronger recall for behaviours that were inconsistent with expectancies about the target's personalities. Two recent meta-analytic reviews of research on memory for expectancy-consistent versus inconsistent information indicate that generally there is a recall advantage for inconsistent information (Rojahn & Pettigrew, 1992; Stangor & McMillan, 1992). It is argued that inconsistent information is more likely to be remembered because it is more

surprising and attention grabbing (see distinctiveness hypothesis). Likewise we devote more resources to trying to explain and resolve the inconsistency, and thus it receives more attention and is better recalled.

However, a number of factors mediate the memory advantage for inconsistent information. Firstly, it appears that preferential recall of inconsistent information holds under individual impression formation conditions but not under group impression formation conditions (Stern, Marrs, Millar & Cole, 1984). This is argued to happen because in individual impression formation, subjects give additional processing to unexpected, irreconcilable information, and because subjects expect consistent behaviour from individuals (and so inconsistent information is surprising and attended to) whereas they do not expect it from a loosely knit group. Stern and colleagues presented subjects with a list of personality traits followed by 20 behaviours that were either attributed to a single individual or to different members of a group. As expected, it was found that inconsistent behaviours were recalled better than consistent behaviours in the individual condition but not in the group condition. A number of other have supported this hypothesis that individual conditions produce superior recall of inconsistent behaviours while group conditions produce better recall of consistent information studies (e.g., Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985). Secondly, studies using pre-existing stereotypes and expectancies (as opposed to laboratory created expectancies) have tended to find better recall for consistent information (Hamilton & Sherman, 1994). Thirdly, the recall advantage for inconsistent information seems to be attenuated by limited cognitive capacity (Macrae, Hewstone & Griffiths, 1993). Stereotype consistent information seems to be easier to process and it does not required the increased attention that inconsistent information needs to be reconciled with initial expectancies.

Even if inconsistent information has a recall advantage, this may ultimately make little difference to judgements. Inconsistent information is often attributed situationally and thus has little impact. Likewise a strong response bias has been found for consistent information (see Fyock & Stangor, 1993; Rojahn & Pettigrew, 1992; Stangor &

McMillan, 1992). Perceivers often guess that they have seen consistent information when they have not, and this tendency may increase as the time between seeing information and making judgements increases (Slusher & Anderson, 1987).

Therefore, generally it appears that 'top-down' processes have an advantage in the application of stereotypes and stereotype content. Categories (and associated stereotypes) once activated tend to act in favour of their own confirmation. The impression formation models of Fiske and Neuberg (1990) and Brewer (1988) both argue that category-based processes have priority in information processing and initial categories will be confirmed if at all possible. The content applied to stereotypic judgements tends to be based on stored representations rather than the immediate data.

Summary

In the above section we have considered how stereotype content is activated and applied to social judgements and the role played by top-down versus bottom-up or data-driven processes. Models within the social cognition approach emphasise the role of top-down processes in stereotyping. Category-based judgements are assumed to be the most cognitively economical and therefore will be employed when possible. The initial activation of a category is determined by salient stimulus cues, priming and accessibility. Once a stimulus has been initially categorised perceivers then confirm its fit with this category. This fit appears to be based on the assessment of the <u>similarity</u> between the features of the stimulus and the stored representation of the category. If an adequate match or fit is obtained then the process goes no further and judgements about the stimulus (and the stereotype <u>content</u> applied) will reflect the contents of the stored category. Categories will tend to act in favour of their own confirmation and therefore information that is consistent with the activated category is more likely to be encoded, remembered and recalled. In this sense top-down processes dominate with judgements likely to be biased in favour of stored knowledge. If an adequate fit cannot be achieved between the stimulus and a category, recategorization occurs until one is found. If this is impossible then the stimulus will be judged in terms of its own features at an individuated level. At this point bottom-up processes dominate although this is not

considered to be stereotyping but rather individuated perception. Thus stereotype content, in this view, largely derives from stored categories to some extent in interaction with the stimulus data. However, more reliance on data and less on 'top-down' processes implies a less categorical judgement and less stereotyping.

Stereotype change

In this chapter so far we have considered the formation and application of stereotype content from the social cognition perspective. Finally, we want to consider models of how stereotypes and stereotype content change. Stereotypes once formed, are assumed to be fairly stable cognitive structures that are resistant to change. We have reviewed evidence that suggests they tend to bias perception in favour of their own confirmation and maintenance. The key to changing stereotypes from this perspective appears to be based on providing perceivers with <u>disconfirming</u> examples: that is, with information that does not fit the stereotype. Most models of stereotype change have investigated under what conditions and in what fashion disconfirming information can change stereotypes or, more specifically, stereotype content.

The models of stereotype change seem to have much in common with models of stereotype formation: that is, stereotype content is changed via individual direct contact with or observation of the behaviour of group members. Indeed, one of the earliest models of stereotype change was the 'contact hypothesis' (see Allport, 1954; Amir, 1969; Cook, 1962; Pettigrew, 1969). According to this model stereotype change could come about by exposing people to members of the groups they were stereotyping. By meeting people and seeing what they were 'really like', prejudice should decrease and people should hold more accurate views of other groups. However, evidence in support of the contact hypothesis has been mixed (for reviews see Hewstone & R. J. Brown, 1986; Hewstone, 1996) and it has been suggested that contact works most effectively if an individual is seen as otherwise typical or representative of a group. Otherwise, the person who disconfirms our stereotypic expectancies tends to be discounted as an exception (R. J. Brown & Turner, 1981; Hewstone & R. J. Brown, 1986).

Three more recent models of stereotype change have considered how disconfirming information can influence stereotypical views: that is, how stereotype content can be altered by exposure to stimuli that do not <u>match</u> (or fit) our expectancies about the group. The first of these is referred to as the "bookkeeping model" (Rothbart, 1981). According to this model stereotype change depends on the <u>amount</u> of disconfirming information received. The greater the amount of disconfirming information, the greater will be the change in the stereotype. The second model is referred to as the "conversion model" (Rothbart, 1981). In this model stereotype change or conversion is predicted to come about when we are presented with one dramatic or highly salient disconfirming example. The third model is the "subtyping model" (Brewer, Dull & Lui, 1981; Taylor, 1981). In line with the view of stereotypes as prototypes within a hierarchical structure, this model predicts that information inconsistent with the original category will be represented at the level of a subtype or subordinate category. This way, the original category is left intact and uninfluenced by the disconfirming information.

Weber and Crocker (1983) have tested the validity of these three models by manipulating both the amount of disconfirming information given to subjects and the distribution of that information across group members. They found most support for the subtyping model. When disconfirming information was concentrated in only a few group members, they were seen as unrepresentative of the group as a whole and were subtyped. There was little overall change to the original stereotype. Conversely, when disconfirming information was dispersed across a large sample the most stereotype change occurred.

Research by Hewstone and colleagues has further investigated the influence of concentrated versus dispersed information and extended the subtyping model. They have found support for the subtyping model of stereotype change in a series of studies (Hewstone, Hopkins & Routh, 1992; Hewstone, Johnston & Aird, 1992; Hewstone, Macrae, Griffiths & Milne, 1994; Hopkins, Hewstone & Hantzi, 1992; Johnston & Hewstone, 1992; Johnston, Hewstone, Pendry & Frankish, 1994). An initial study (Hewstone, Hopkins & Routh, 1992) sought to test the conversion model of stereotype

change and investigated students' stereotypes of the police in Britain in response to a police-schools liaison program. They found that while students rated the police liaison officers more positively than police in general, this view did not extend to police in general, and that they actually categorized the liaison officers separately from police in general. This finding provided support for the subtyping model of stereotype change. Hewstone and colleagues argue that disconfirming information will be more influential in changing stereotypes if it occurs in individuals otherwise seen as representative of the group. A study by Johnston and Hewstone (1992) found more stereotype change when disconfirming information was dispersed across group members as opposed to concentrated in a few. In addition, they found that the perceived typicality of the disconfirming group members mediated stereotype change. Johnston et al. (1994) investigated the influence of potential attenuating cognitive and motivational factors, such as anticipating interaction with a member of the group being judged, or having weaker expectancies about the group, on stereotype change in response to stereotype-inconsistent information. These factors should encourage subjects to pay more attention to potentially disconfirming information about targets. Evidence for the subtyping model was found even in the presence of motivational and cognitive factors.

Other studies suggest the impact of inconsistent or disconfirming information on stereotype change may depend upon how well we are able to account for inconsistencies in terms of the current stereotype or to discount them. Kunda and Oleson (1995) suggest that an inconsistent behaviour by a group member will not be generalised to the rest of the group if the perceiver can somehow account for the inconsistency. In their study subjects were presented with a group of lawyers, who are considered to be stereotypically extroverted. In one condition, subjects were presented with a brilliant introverted lawyer and tended to generalise this to the whole group judging them to be less extroverted compared to a control group. In two other conditions, subjects also learnt that the introverted lawyer either worked for a large or a small firm. In these conditions subjects did not generalise from the introverted lawyer to the whole group. Kunda and Oleson argue that subjects are able to use this additional piece of

information (size of firm) to account for the introverted lawyer and so maintain their stereotype of lawyers on the whole as being extroverted. These results suggest that stereotype maintenance in the face of inconsistent information depends on how well that inconsistency can be 'explained' away.

Yzerbyt et al. (1997) have suggested that we require cognitive resources to <u>maintain</u> stereotypes because reconciling inconsistent information is resource consuming. A study by Yzerbyt, Coull and Rocher (1995, cited in Yzerbyt et al., 1997) tested this idea. Subjects were presented with a computer engineer (stereotypically introverted) who was attributed a number of consistent, inconsistent and neutral traits. Importantly, target persons were presented as being extroverted which was inconsistent with the stereotype of computer engineers. Information about the target person was presented via a two minute interview on an audio tape. While listening to the tape, half the subjects were distracted by playing a simple video game, while the other half were not distracted and simply listened to the interview. After listening to the tape subjects either rated the group 'computer engineers' on the a number of traits including extroversion-introversion, or simply rated the target person on the same set of traits. Results showed subjects who rated the sole target person were more sensitive to the inconsistent information compared to those who rated the group. However, of those subjects rating the group, the non-distracted subjects rated the category as a whole as more introverted (i.e., stereotype-consistently) compared to distracted subjects. They suggest that stereotype maintenance is resource consuming and that the distracted subjects did not have the resources to explain the inconsistent information away and thus maintain their stereotype.

In summary, the above models suggest it is quite difficult to change stereotype content with disconfirming information and that this will generally only happen when such information is dispersed across group members who are otherwise seen as typical of the category. In common with the impression formation models outlined earlier, most of these models assume a relatively fixed notion of what is typical or atypical of a given group, thus assuming stereotypes to be relatively fixed cognitive structures To change

stereotypes disconfirming exemplars must be otherwise a 'good fit' for the category. This 'goodness-of-fit' is seen as a match to a fixed category prototype (Rothbart & John, 1985). The idea is that we, as perceivers, will discount or subtype disconfirming information if at all possible (or explain it away) and only take into account when absolutely necessary.

Conclusion

In this chapter we have examined the issue of stereotype content from the social cognition perspective. Specifically, we have reviewed accounts of stereotype formation, stereotype activation and application, and stereotype change. Because stereotype content is conceptualised as being stored in a relatively fixed, cognitive form, a distinction is drawn between the initial formation of content (its initial association with a stored category) and the application of that stored content to any given social judgement. At the formation stage, content is derived chiefly from the perception of differences between groups. However, this perception is often filtered by cognitive biases and therefore may not reflect 'true' differences between groups. Content may be based on distinctive, attention-grabbing features of the stimulus.

At the activation stage, top-down processes are argued to dominate. The application of content to a stimulus depends on how that stimulus is categorized. This in turn depends on the match or fit between the stimulus and aspects of the stored category. Adequate fit ensures the stored content associated with that category is applied to the stimulus. A large amount of evidence, including that from research on stereotype change, suggests that stereotypes tend to act in favour of their own confirmation — thus processes are biased towards achieving a match between categories and stimuli. This is argued to serve the interests of cognitive economy. Therefore, stereotype content tends to be congruent with our expectations about groups (or our schemas). Content is linked to category labels which organise our beliefs about social groups and which may serve to cue stereotypes. The stereotype content applied to our social judgements is implied to be of variable accuracy and often simplified and overgeneralised.

Thus, while this perspective has deliberately shifted its focus away from studying stereotype content, a close examination reveals its implicit emphasis on the role of individual cognitive processes in determining stereotype content. Criticisms of this perspective are often aimed at the inadequacy of individual cognitive processes alone to fully explain stereotype content (e.g., Tajfel, 1981). We consider some of these criticisms and some alternative perspectives in the next two chapters.

Chapter 4

Contemporary Approaches to Stereotype Content (II): Collective Approaches

In the next two chapters we review two other influential contemporary approaches to stereotyping and stereotype content which provide both contrasts and alternatives to the social cognition perspective reviewed in the previous chapter. We term these two perspectives <u>collective</u> approaches (to be reviewed in this chapter) and <u>interactionist</u> approaches (to be reviewed in Chapter 5). The term collective approaches broadly refers to approaches that have focussed on the collective and social rather than the individual cognitive determinants of stereotyping and stereotype content, and that have emphasised the role of groups, society, culture and language in the formation of stereotype content. In our review we especially focus on research from social representations theory, and from discursive and rhetorical social psychology.

Both collective and interactionist approaches have been critical of the social cognition perspective for focussing too much on individual cognitive processes in stereotyping, for ignoring the role of social factors and social context, and for ignoring the <u>contents</u> of cognition. In the next two chapters we examine the criticisms these approaches have made of the social cognition perspective and review their alternative accounts of the determinants of stereotype content. We begin in this chapter with a review of collective approaches. In the following chapter we review interactionist approaches.

Overview

Stangor and Schaller (1996) make the following distinction between individual, social cognitive approaches to stereotyping and more collective approaches:

> From one perspective stereotypes are represented within the mind of the individual person. From the other perspective, stereotypes are represented as part of the social fabric of a society, shared by the people within that culture. (p. 4)

That is not to say that collective approaches are advocating a 'group mind'; rather these approaches tend to emphasise the importance of <u>shared</u> social beliefs over and above individual beliefs (Stangor & Schaller, 1996). This more social approach has been accompanied by a more explicit focus on the <u>contents</u> of stereotypes and less focus on stereotyping processes (Stangor & Schaller, 1996).

While the research we are including within this approach does not represent a unified theoretical perspective, broadly speaking it encompasses the idea that stereotype content is derived from culture and society. This approach has been critical of social cognition perspectives for ignoring the role of culture in stereotyping. For example, theorists within a social constructionist tradition argue that all social reality, including cognitive processes themselves, are socially and culturally constructed and vary across cultures (Gergen, 1985; Pepitone, 1986). Pepitone (1986) criticises accounts of stereotype formation such as illusory correlation, for assuming cognitive processes that are independent of culture and independent of the <u>content</u> of stereotypes. He argues, to the contrary, that the content of cognitive categories critically affects cognitive processes. The same stimulus material will be judged and interpreted according to the cultural meanings invested in it.

Crucial to this perspective is the consensual nature of stereotype content. As individuals are socialised into a culture, or a society, they acquire the stereotypes of that culture/society. Society (rather than the individual) is assumed to be the basis of stored knowledge about social groups (Stangor & Schaller, 1996). Cultural stereotypes are transferred to individuals via education, family and the media, via social roles and social norms, via processes of social learning and conformity. The role of language in constructing and transmitting stereotype content is argued to be especially important. Its importance lies in the fact that "it transcends the individual and offers a means of storing stereotypic beliefs at a collective, consensual level" (Stangor & Schaller, 1996, p. 11).

Collective approaches have been criticised for being non-unified and vague, and at times more sociological than psychological. However, some recent approaches to stereotyping have considered the role of 'social' and 'collective' knowledge, and the role of language, in the formation of stereotype content in a more rigorous and unified fashion, and have presented themselves as viable alternatives to the mainstream orthodoxy. We now turn to two of these in particular: social representations theory, and discursive and rhetorical social psychology.

Social representations theory

The term 'social representations' has its origins in Durkheim's (1898) concept of collective representations, which he described as including science, religion and myth. Moscovici (1976) coined the term social representations emphasising that this knowledge was social in the sense that it is both represented in society and shared by the members of society. Social (as opposed to collective representations) are tied up with understanding and communicating, and contribute to the creation of 'reality' and 'common sense' (Moscovici, 1984). While definitions of the social representations concept vary, the following definition of social representations emphasises the explanatory nature of this phenomenon:

> Social representations ... concern the contents of everyday thinking and the stock of ideas that gives coherence to our religious beliefs, political ideas and the [mental] connections we create ... They make it possible for us to classify persons and objects, to compare and explain behaviours and to objectify them as parts of our social setting. (Moscovici, 1988, p. 214, cited in Hewstone, 1989)

The purpose of these representations is to make the unfamiliar familiar. Social representations are argued to be created by individuals and groups via communication (Moscovici, 1984). Two processes generate social representations — anchoring and objectifying (Moscovici, 1984). The first process "strives to *anchor* strange ideas, to reduce them to ordinary categories and images, to set them in a familiar context" (Moscovici, 1984, p. 29, emphasis in original). Anchoring involves classifying and naming objects so that we are able to understand and represent them. It involves comparing unfamiliar objects to our system of categories: "Insofar as a given object is

compared to the paradigm of a category it acquires characteristics of that category and is re-adjusted to fit within it" (Moscovici, 1984, p. 30). The second process in social representations, objectifying, acts to turn 'abstract' objects into 'concrete' ones (Moscovici, 1984). For example, scientific concepts, such as psychoanalysis, become transformed so that they become part of everyday commonsense (Moscovici, 1961). The specific <u>content</u> of representations is of vital importance and the processes involved in creating representations are argued to be important insofar as they help us to understand the content. As Moscovici (1984) argues : "... how we think is not distinct from what we think" (p. 67).

In many respects, social representations have much in common with schemas as discussed by social cognition theorists. For example, they are both conceptualised as knowledge structures which guide and facilitate the processing of information (Augoustinos & Innes, 1990). Likewise, both are thought to bias the processing of information in favour of their own confirmation. Moscovici (1984) argues that: "we are never provided with any information which has not been distorted by representations 'superimposed' on objects and on persons ..." (p. 6). The process of <u>anchoring</u> appears similar to the processes described previously (Chapter 3) whereby stimulus information is matched to a category on the basis of similarity, and then defined and described in terms of the contents of that category (or associated stereotype) (Augoustinos & Innes, 1990). However, while social cognitive theories view the categorization of stimuli as an <u>individual</u> cognitive process, social representations theory sees anchoring as a <u>social</u> process (Augoustinos & Innes, 1990; Billig, 1991). This highlights the crucial difference between the two approaches — while social representations are viewed as collectively shared and collectively shaped, schema theory does not clearly articulate where schemas and their <u>contents</u> come from (Augoustinos & Innes, 1990; Jaspars & Hewstone, 1990). The social representations approach is interested in the content and origins of our cognitions not just the process. Likewise, unlike schemas, social representations are linked to intergroup processes (Echebarria-Echabe, Guede, Sanjuan-Guillen & Valencia-Garate, 1992). It is emphasised that they and their contents are

created through social communication (see Augoustinos, 1991; Augoustinos & Walker, 1995).

Social representations are assumed to be consensual, to be shared within groups and within society more broadly, and to vary in content across groups. It is these factors that are important in terms of an understanding of stereotype content. One of the central features of social representations is that their content is shared within social groups. This consensus is created via social communication and the interaction of group members (Augoustinos, 1991). Thus, consensus is expected within groups, either narrowly or broadly defined, and likewise differences in the content of representations would be expected between groups.

A number of studies have investigated the consensual nature of social representations and their connection to different social groups. For example, Augoustinos (1991) investigated the development of consensual representations of Australian society. She found that older groups of subjects had more consensual representations than younger groups suggesting that with increased socialisation, interaction and communication representations (and their content) become shared. A study by Hewstone, Jaspars and Lalljee (1982) looked at the social representations held by English public and comprehensive schoolboys concerning similarities and differences between the two types of boys. They found that the schoolboys possessed quite distinct social representations of themselves and each other. At the same time, within each group there was considerable agreement in terms of the representations produced. In addition, while the two sets of schoolboys did have some overlap in their representations, often they invested the same traits with different meanings. For example, the public schoolboys saw themselves as hardworking whereas the comprehensive schoolboys saw them as 'swots'. Hewstone et al.'s study shows how the content of both representations of own and other groups can vary with social group membership.

Echebarria-Echabe et al. (1992) looked at the social representations of drugs held by people with different levels of contact with drug users. They found that different

representations of drugs were anchored in different social categories. Likewise, different social categories had different explanations for drug addiction. Because social representations are anchored in different social groups, they argue that the <u>contents</u> of stereotypes can differ with different groups. Hraba, Hagendoorn and Hagendoorn (1989) investigated the link between social distance in an ethnic hierarchy and social representations. They found that their subjects held consensual representations of the hierarchy of ethnic groups in the Netherlands. However, this social representation was not shared to the same degree by all subjects and degree of consensus was influenced by "the ideological and social characteristics of the respondents" (p. 67). These researchers emphasise that social representations are best understood as dynamic processes rather than static structures.

These studies highlight that the contents of social representations, including stereotypes, are consensual within groups and may vary between groups. It is suggested that content derives from processes of social communication within groups, although these processes are not fully outlined. Augoustinos and Walker (1995) go somewhat further by proposing that the <u>content</u> of stereotypes is derived from the social and economic positions of groups, and not determined by any properties intrinsic to the individual members of those groups. They propose that stereotypes are "ideological representations which are used to justify and legitimise existing social and power relations within a society" (pp. 301-2). Likewise, Jost and Banaji (1994), while not employing a social representations framework, argue that stereotypes serve ideological functions, namely system-justifying ones of maintaining the social structure and the dominance of some groups over others. Their "system-justification view assumes that the specific contents of stereotypes may be predicted on the basis of objective, material factors such as status or position in society" (p.16). Thus, the contents of stereotypes may be "derived from prevailing systems of social arrangements" and "changes in the existing system of arrangements may produce changes in the contents of stereotypes" (p. 16). Likewise, Stangor and Jost (1997) argue that stereotyping should not only be examined at an individual and group level, but also at a systems level. They suggest that while most

models of stereotype formation (see previous chapter) focus on the 'bottom-up' determinants of stereotypes, 'top-down' collectivistic beliefs about groups are also crucial.

A number of critiques have been made of social representations theory. Chief among these has been the theory's vagueness and reluctance to define concepts (Potter & Litton, 1985). Another important criticism concerns the ambiguity concerning the level of consensus necessary before a representation can be considered to be 'social' (Potter & Litton, 1985). It is argued that the perspective often takes consensus for granted without clearly explaining how this consensus comes about or what constitutes a group for the purposes of consensus (Harre', 1984; Potter & Litton, 1985). The social representations approach implies that the content of stereotypes derives from representations that are shared by groups within society rather than simply from individual cognitive biases. However, it is somewhat unclear in terms of <u>how</u> these representations come to be shared and associated with given groups. While some processes have been articulated (e.g., anchoring and objectification) research has tended to focus on uncovering the <u>content</u> of different representations. There are also concerns that because of their cognitive element, social representations will eventually become reduced to cognitive structures or become a 'social' variable tacked on to cognitive accounts (Augoustinos & Walker, 1995; Billig, 1991; Potter & Billig, 1992). We add some of our own criticisms of this approach at the end of this chapter.

With its focus on consensus, the approach has been criticised for ignoring the <u>diversity</u> which exists within a group's shared representations (Potter & Litton, 1985; Potter & Wetherell, 1987). We now want to consider approaches from discursive and rhetorical social psychology that have emphasised the diversity and contradictions that may exist within 'shared' representations and stereotype content.

Discursive and rhetorical social psychology

These somewhat overlapping approaches are characterised by an emphasis on the inconsistent and contradictory nature of social knowledge including stereotypes.

Likewise, they focus on social discourse to understand social knowledge. Potter and Wetherell (1987) define discourse as "all forms of spoken interaction, formal and informal, and written texts of all kinds" (p. 7). Discourse analysis refers to the analysis of these forms of discourse. Taking a rhetorical approach to social psychology means that "whenever [we] consider a psychological process, [we] should also look for the counter-process" (Billig, 1991, p. 59). A number of researchers from this perspective have challenged the extent to which social beliefs may be homogenous within groups or within society. They are also characterised by their anti-cognitivist approach to the study of social psychology, both theoretically and methodologically. Billig (1997) argues that while most mainstream psychology takes internal mental states or processes as their subject matter:

> Discursive and rhetorical psychology does not take these hidden essences as its object of study. Instead, discursive psychologists claim that the phenomena of social psychology are constituted through social interaction especially discursive interaction. (p. 38)

Researchers in this tradition have been particularly critical of the social cognitive accounts of stereotyping discussed in the previous chapter. Potter and Wetherell (1987) question three assumptions of the social cognition perspective: (a) the inevitability of biased categorization, (b) the assumption that categories are preformed and enduring and (c) the assumption that categories have fixed structure. In response to the first assumption they cite the arguments of Billig (1985) who discusses the counter-processes of categorization and particularisation. He suggests that it is an equally 'normal' process to look for the unique features of individuals through particularisation as it is to group them together via categorization. In response to the second and third points, Potter and Wetherell (1987) argue that the idea of categories as preformed, fixed and enduring is difficult to maintain in light of evidence demonstrating the widespread variability in category content. They propose that categories and their content vary and are actively reconstructed to serve functional purposes. A study by Wetherell, McFayden, Potter and Rothwell (1986, cited in Potter & Wetherell, 1987) looked at the discourse of white New Zealanders concerning Maoris. They argue that:

> ... if white New Zealanders do use stable prototypes of the category Maori there ought to be a high degree of consistency in the depiction of Maoris across different topics. (p. 123)

However, this consistency was not found; rather there was a great degree of variability in the descriptions of Maoris even across the same persons and many descriptions contained contradictory elements. Therefore, they argue that categories, instead of having a fixed structure, may be a cluster of inconsistent features and expectations. They suggest that rather than categories (and stereotypes) being identical to prior expectations, that these expectations may be drawn upon as a category is manufactured. In this perspective, the content of categories is often inconsistent, variable across occasions and constructed through discourse to serve certain goals.

Discourse analysts have argued that as well as accounting for differences in content and representations between groups (as per social representations theory, for example) we also need to be able to account for diversity within groups. For example, Condor (1990) argues that it may be too simple to propose that dominated groups simply accept the ideology and beliefs of the dominant group (as per Augoustinos & Walker, 1995; Jost & Banaji, 1994; Stangor & Jost, 1997). She points to the existence of distinct working-class cultures and other counter-cultures. While the content of, for example, women's gender stereotypes may be measured as similar to men's, to see this as reflecting a dominant ideology assumes that stereotypes are unitary and consistent. Women may possess a dual consciousness with the ability to switch between female views of the world and dominant male ideology (Spender, 1980). Condor argues that people may not simply accept or reject the dominant ideology but may actually possess multiple consciousnesses. For example, working-class people may, while at one level accepting the dominant ideology, also develop strong working-class cultures with a different set of understandings. Thus, Condor (1990) argues that people do not hold a single consistent image of a particular social category.

Likewise, Billig, Condor, Edwards, Gane, Middleton and Radley (1988) have examined the dilemmatic nature of thought and ideology, and argue that people often hold contradictory beliefs regarding the differences between groups, such as gender

differences. Such contradictory beliefs are argued to produce variable content associated with stereotypes of groups such as women and men. They argue that most social psychologists "presuppose consistency in the use and in the meaning of gender categories" (p. 124). Other perspectives trace different notions of (or beliefs about) gender to discrete belief systems such as 'gender', 'individual difference' and 'common human nature'. Sociologists have distinguished differentiating and non-differentiating ideologies of gender — that is, perspectives that emphasise differences based on gender versus those that emphasis either common human nature or individual differences. It makes sense that those who ascribe to different belief systems about gender would have different subsequent gender stereotypes. However, Billig and colleagues go further by arguing that these belief systems are not necessarily distinct:

> The tendency to regard notions of 'gender', 'individuality' and 'common human nature' as distinct positions, which may be used as a reliable means by which to classify 'different' belief systems, necessarily minimises the coincidence of these different themes *within* accounts. (1988, p. 125, emphasis in original)

They suggest that accepting the reality of gender may co-exist with an acceptance concerning ideas about individual differences or common human nature. In our society individualism is valued, thus it is seen as unfair to differentiate on the basis of sex. At the same time, common-sense suggests that people are either male or female implying some difference between the two categories. Thus, these two seemingly contradictory beliefs may co-exist. At times we may be forced to opt for a single answer and to choose between these two themes. However, Billig et al. (1988) argue that we do not reach a final stable position, rather "the distinction between assertions of human similarity, absolute variety and (gender) difference may be regarded as *inherently* unstable" (p. 131, emphasis in original). This is reflected in the instability of gender stereotype content.

A recent paper by Reicher, Hopkins and Condor (1997)[3] also concerns itself with the variability of stereotype content <u>within</u> groups. They suggest that it is too simplistic to

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[3] It should be noted that Reicher et al. (1997) claim to take a position that lies somewhere between discourse analysis and self-categorization theory. They do not deny the existence of psychological, cognitive constructs for self and other.

argue (as does social representations theory) that all members of a group share common understandings by virtue of being members of the same group. They argue that stereotypes vary within groups and that they are contested by group members. They point out that people within the same group may vary in what they say in the same context (see also Billig et al., 1988). Using a discursive methodology they investigated how various political parties in Scotland sought to define 'Scottishness' during the British general election of 1992. They found not only did different members of the same national group express contradictory ideas about what defines 'Scottishness' but that variability also existed within the same political party. Their discussion focuses on how category definitions are arrived at within groups via argumentation. Thus they suggest that stereotypic content is not <u>given</u> within a social group but rather it is contested and argued for in ways that serve strategic ends.

Discursive approaches to stereotyping and stereotype content have been criticised for emphasising the variability in what people say and denying the coherence (Augoustinos & Walker, 1995). Likewise, the approach is criticised for ignoring the role of cognitive processes — for example, what is going on inside people's heads when they engage in discourse? (Abrams & Hogg, 1990; Augoustinos & Walker, 1995; Hogg & McGarty, 1990; Parker, 1992). Evidence that points to inconsistency in people's discourse about groups does not necessarily imply that there is no underlying cognitive system that produces these stereotypes:

> The very existence of different sets of repertoires which can be deployed flexibly points to the existence of a cognitive substrate which permits the social actor to select between them. (Hogg & McGarty, 1990, p. 25)

By discounting the importance of cognitive processes, it is argued that this approach does not offer a properly <u>psychological</u> explanation of stereotyping (Hogg & McGarty, 1990). In addition, the approach has been criticised for being prone to relativism (Abrams & Hogg, 1990; Hogg & McGarty, 1990).

Conclusion

In this chapter we have reviewed collective approaches to stereotype content, especially social representations theory, and discursive and rhetorical social psychology. Collective approaches emphasise the role of shared social knowledge, such as social representations and language, in understanding content. In summary, collective approaches to stereotyping, such as social representations theory or discursive social psychology, consider the nature of social knowledge, how it is constructed and its effects on social behaviour and judgements. This is where the relevance to stereotype content is apparent. Likewise, both approaches emphasise the role played by language and communication in the transmission of content. Social representations theory stresses the consensual nature of content within groups or within society, and argues that content becomes created and shared via processes of social communication and interaction. In addition, this approach suggests that social representations may act to bias our perceptions in favour of their own confirmation and thus stereotype content may not accurately reflect real features of individuals. In contrast, discursive approaches stress the inherent variability of stereotype content not just between groups but also within groups and, indeed, within persons. They emphasise that stereotype content is not given but that it is produced via processes of communication, discussion and argumentation within groups to serve functional purposes for the group and its members. This approach suggests that stereotype content is valid from the perspective of the perceiver, although not necessarily a veridical representation of social reality. Thus, while social representations theory argues that content may be 'stored' in social rather than individual representations, discursive approaches eschew the idea of fixed cognitive structures which 'contain' content. Alternatively they argue that content is actively constructed via functional discursive practices such as argumentation. Both approaches play down the role of individual cognitive processes in producing stereotype content and argue that stereotyping cannot be understood in terms of these processes alone.

We have reviewed above some of the criticisms made of both approaches. With regards to the purposes of this thesis, namely the formation of stereotype content, we add a

further criticism. Despite the fact that content appears to be very important in both approaches, explanations regarding the origins of this content appear to be very oblique. For social representations theory content arises via processes of communication and interaction within society. How exactly these processes operate to produce a given content as opposed to other possible contents does not appear to be clearly articulated. This often leaves the theory at the level of describing content rather than predicting it. In discursive approaches it is also argued that content is produced via discussion, communication and argumentation within groups but once again outcomes produced seem to be descriptions of content and its variability rather than any predictions of what content will be produced when. As discussed previously, we argue that adequate accounts of content need to go beyond description and provide a theoretical analysis of the processes operating in content formation, an analysis that allows for the prediction of content.

Chapter 5

Contemporary Approaches to Stereotype Content (III): Interactionist Approaches

In this chapter we turn our attention to <u>interactionist</u> approaches to stereotyping and stereotype content. Interactionist approaches are those that have considered both individual cognitive <u>and</u> collective, group-based determinants of stereotyping and stereotype content (and the interaction of these factors). In this chapter we focus especially on self-categorization theory as the research from this perspective is highly representative of the interactionist stance. We also consider recent work from cognitive psychology concerning categorization, which self-categorization theory draws upon, along with other recent social-psychological developments relevant to this approach (e.g., social judgeability theory, Leyens, et al., 1994).

Overview

An interactionist approach to stereotyping draws upon both the role of individual cognitive processes and more collective influences in explaining stereotyping and stereotype content. It can be thought of as interactionist in two senses — it considers the interaction between individual cognitive and collective, group-based factors in stereotyping, and it considers the interaction between 'top-down' (or theory-driven) and 'bottom-up' (or data-driven) processes in determining stereotype content. In this section we begin by examining some of the underlying assumptions of this perspective especially in contrast to the social cognition perspective. We then provide a brief overview of self-categorization theory. This approach argues that the categorization process is fundamental to stereotyping and we articulate (from this perspective) the role of categorization in stereotyping, evidence to support this view, and the implications that can be drawn regarding the formation of stereotype content.

In line with its interactionist roots (e.g., Asch, 1952) self-categorization theory argues strongly against an individualistic and reductionist social psychology (e.g., Oakes et al., 1994; Oakes & Turner, 1990; Turner & Oakes, 1986; Turner & Oakes, 1997):

> ... one distinctive aspect of self-categorization theory is its explicit aim to develop an interactionist, anti-individualistic analysis of these issues, that is, one that takes seriously the functional interaction of social and psychological processes, and the consequent validity and importance of collective as well as personal definitions of the self. (Oakes et al., 1994, p. 94)

It is argued that reductionism denies the 'psychological reality' of the group and reduces the activities and existence of a group to the sum of its individual members. Self-categorization theory argues that a group represents a 'psychological reality' and that it has emergent properties that are more than the sum of its parts. Given this, representations of groups (i.e., stereotypes) are equally as valid as representations of individuals and, importantly, representations of groups tell us more about the group than would the sum of representations of individuals who make up the group.

This position rejects the idea that the underlying cause of social stereotyping is limited information-processing capacity (see Oakes & Turner, 1990; Oakes et al., 1994; Oakes & Reynolds, 1997; Spears & Haslam, 1997). Likewise it rejects the idea that stereotyping is necessarily biased and that individual-based perception is different from, and more accurate than, group-based perception (Oakes et al., 1994; Oakes & Reynolds, 1997). Thus stereotyping is argued to occur not because of limited cognitive capacity but because it is a meaningful representation of group realities. It is argued that even with unlimited cognitive capacity we would still stereotype because it is often meaningful to perceive people in terms of their group memberships. Such a position implies that stereotype content is not necessarily invalid, biased or distorted because content derives from meaningful processes rather than individual cognitive biases. We will examine some of these assumptions in further detail as we consider this position's account of stereotyping.

Self-categorization theory

Self-categorization theory's relevance to stereotyping "derives from the fact that it attempts to explain the nature of the relationship between cognitive processes (especially categorization) and group life" (Oakes et al., 1994, p. 94). In simple terms, the theory assumes that the categorizations we make of the world include the self. That is, in the same way that we categorize external stimuli, we also categorize ourselves as similar to some class of stimuli in contrast to some other class of stimuli. This categorization reflects our self-conception. It is argued that people can categorize themselves (and others) at a number of different levels of abstraction which may be more or less inclusive. Theoretically, three general levels of abstraction for self-categorization are identified: (a) personal identity where one's self is perceived as a unique individual in comparison to other ingroup members (interpersonal), (b) social identity where self is perceived as an ingroup member as opposed to an outgroup member (intergroup), and (c) the superordinate level of humanity where one is defined as a human as opposed to a non-human (interspecies) (Turner, 1985; Turner et al., 1987). However, these three levels are only examples of an infinite number of possible levels; personal and social identity are the most important levels for understanding group behaviour but self-categorizations can be both more or less inclusive (Turner & Onorato, 1999).

The level at which one categorizes oneself (and others) depends crucially upon comparative relations within a given context. Thus, categorization depends on the perception of relative differences. These in turn depend on the comparative context or frame of reference in which the stimuli are perceived. Therefore categorization depends on comparison. However, comparison also depends on categorization (Oakes et al., 1994). Stimuli must share a category identity at some level to be meaningfully compared to each other. This higher-order identity constrains categories that can be meaningfully formed on the basis of comparisons. The idea that categorization is context-dependent implies that categorization is a variable and fluid process. Likewise, the outcome of categorization, the perception of similarity and difference, is also

variable and context-dependent (Oakes et al., 1994; see also Medin, Goldstone & Gentner, 1993). It is this outcome of categorization, namely the perception of similarity and difference within and between groups, that is stereotype content. Thus, content is flexible and context-dependent.

The theory predicts that categorization at a social level becomes more likely as intragroup differences decrease and intergroup differences increase, while categorization at a personal level becomes more likely as intergroup differences decrease and intragroup differences increase. There is a conflicting inverse relationship between personal and social identity. The more we move away from perception of ourselves (or others) as unique individuals the more we move towards perception of ourselves (or others) as group members. Turner (1985, 1987) talks about a "functional antagonism" between the different levels of self-categorization, such that salience at one level produces the perception of intra-class similarities and inter-class differences which inhibits the perception of these similarities and differences at other levels of categorization. Self-categorization tends to vary along a continuum from personal identity (where one is perceived as an unique individual maximally different from other ingroup members) to social identity (where one is perceived as an ingroup member maximally similar to other ingroup members and different from outgroup members) (Turner, 1987). It is argued that most of the time people operate somewhere in the middle of the continuum but that people may move towards either end at any time given the appropriate context.

Movement from personal to social identity produces a depersonalisation of self-perception and behaviour (Oakes et al., 1994). Depersonalisation involves the perception of increased similarity between self and ingroup members and increased differences from outgroup members, or self-stereotyping. Individuals come to see themselves as interchangeable members of some shared social group or category (Turner, Oakes, Haslam & McGarty, 1994). It is this depersonalisation that makes group-based perception (such as stereotyping) and group-based behaviour possible. Group-level behaviour, when one's social identity is salient, is characterised by "higher-

order, emergent properties and products" that are argued to represent <u>more</u> than the sum of the behaviours of the individuals within the group (Turner et al., 1994, p. 455). Likewise, depersonalisation makes shared social beliefs and knowledge possible (Turner, 1991). One expects to agree with others categorized as similar to self and is therefore influenced by their beliefs, values etc..

Self-categorization theorists argue that people are "both individuals and social group members" (Oakes & Turner, 1990, p. 123) and the extent to which they are perceived as one or the other varies with comparative context. As we move from an intragroup context to an intergroup context, we move from personal identity to social identity. As social identity becomes salient, we self-stereotype; that is we perceive ourselves to be similar to other ingroup members on dimensions relevant for ingroup definition. Likewise, when we stereotype others it is because a social categorization which they belong to is salient for us and we perceive them to be similar to other members of their group on <u>relevant dimensions</u> (and different from members of other groups). In this sense, stereotyping is argued to be simply categorical perception at the intergroup level of abstraction. Stereotypes are argued to represent group realities. They represent the emergent properties of groups not just personal characteristics of individual members (Oakes et al., 1994). Also, stereotypes represent groups-in-context. They are not considered representations of fixed, absolute group properties. Importantly, stereotypes are <u>categorizations</u> of individuals as social group members; hence self-categorization theory has spent considerable effort understanding and articulating the categorization process.

Categorization, category formation and category salience

In common with the social cognition perspective, and drawing on the same basis of work from Tajfel, self-categorization theory considers the categorization process to be fundamental to stereotyping. However, it takes a somewhat different view of the categorization process than the social cognition perspective. Importantly, categorization is considered to be a <u>comparative</u> and <u>context-dependent</u> process. The comparative nature of categorization is embodied in the theory's principle of meta-contrast. Turner

(1987) argues that category formation follows the principle of meta-contrast. The principle states that:

> ... within any given frame of reference ..., any collection of stimuli is more likely to be categorized as an entity ... to the degree that the differences between those stimuli on relevant dimensions of comparison (intra-class differences) are perceived to be less than the differences between that collection and other stimuli (inter-class differences). (Turner, 1987, pp. 46-7)

That is, categories form so as to maximise relative inter-class differences and minimise intra-class differences. The meta-contrast principle describes the comparative relations that must exist between stimuli for them to be treated as a category and implies that categorization is always relative to a frame of reference (Oakes, 1996).

This contrasts with the major account of stereotype formation from social cognition research — namely distinctiveness-based illusory correlation. According to self-categorization theory, correlations between attributes and the division into categories must be real rather than illusory (see also Ford & Stangor, 1992; Tajfel, 1969, 1972; Tajfel & Wilkes, 1963). Re-interpretations of the illusory correlation effect from a self-categorization perspective point to the role of meta-contrast and categorization in stereotype formation. It is argued that the illusory correlation effect can be understood as the result of a search for differentiated meaning (Haslam, McGarty & P. Brown, 1996; McGarty, Haslam, Turner & Oakes, 1993; Oakes et al., 1994; McGarty & de la Haye, 1997) whereby concepts are made 'separate and clear'. McGarty et al. (1993) suggest that subjects in the standard illusory correlation experiment are faced with a potentially confusing situation which they expect can be resolved by categorical differentiation in terms of the only dimension made available for judgements (i.e., positivity/negativity). Subjects can make sense of the task by interpreting the stimuli as showing real differences between the two groups (McGarty & de la Haye, 1997).

McGarty et al. (1993) found evidence of the illusory correlation effect without exposing subjects to the standard illusory correlation (IC) stimuli. In Experiment 1, subjects were merely given the standard instructions and the response sheets for the three standard tasks. In addition, some subjects were told that nearly half the stimuli were positive

statements about Group A while others were told that there were twice as many statements about Group A as Group B. Other subjects were given both pieces of information. Subjects given no additional information showed no illusory correlation whereas those given both additional pieces of information displayed illusory correlation on all three tasks. In a second study, subjects were presented with the standard IC task except that stimulus statements were not identified by group. Again strong illusory correlation effects were found on all three measures. The argument is made that:

> It is clear that subjects differentiated between the groups when they were given (a) a task where it was reasonable to differentiate between the social groups and (b) a dimension (evaluation) on which to do so. It also appears that they did so in such a way as to favour the larger group because there was implicit fit between the number of positive statements and the number of statements about the larger group. (McGarty & de la Haye, 1997, p. 159)

Berndsen (1997, Study 3.4) presented subjects with an illusory correlation task where they were required to 'think aloud' while viewing the stimulus statements. She found a relationship between the size of perceived illusory correlation and subjects' tendency to reinterpret the behaviours they were presented with. A larger illusory correlation effect was associated with a tendency to reinterpret negative Group A behaviours as more positive and positive Group B behaviours as more negative. Thus, subjects appeared to differentiate between Group A and Group B by accentuating positive behaviours for Group A and negative behaviours for Group B. The 'think-aloud' procedure demonstrated that subjects developed a hypothesis that Group A is better than Group B and then reinterpreted subsequent disconfirming behaviours in line with their hypothesis; that is, they accentuated differences between groups. Thus, it appears that once subjects feel they are able to meaningfully make a categorization they will accentuate similarities and differences according to that categorization (Tajfel & Wilkes, 1963). The research cited above suggests that in the standard illusory correlation task there are actual comparative differences between groups (e.g., in terms of the number of positive and negative behaviours about each group, see Smith, 1991) and that subjects are motivated to look for meaningful differences between groups. Thus, differentiation between groups is crucial for category formation but it reflects the

perception of real comparative differences between groups according to the principle of meta-contrast.

While the meta-contrast principle is crucial in category formation it provides only part of the explanation for categorization. A full account must also consider the accessibility and the normative content of categories. Self-categorization theory views the salience of social categories as being determined by an interactional process involving the relative accessibility of the category and the fit between stimulus input and the category (Oakes et al., 1994). This idea builds on the work of Bruner (1957) who outlined an 'accessibility x fit' hypothesis with respect to perception. Accessibility refers to how perceptually 'ready' a person is to perceive a given stimulus. A category that is readily accessible will require less input for categorization of stimuli in terms of that category to occur; likewise, there will be a wider range of stimuli that will be accepted as fitting that category (Bruner, 1957). According to Bruner, accessibility depends upon the "current tasks, goals and purposes of the perceiver" and upon the "likelihood of particular types of objects or events occurring in the perceiver's present environment" (Oakes, 1987, p. 128). The other half of the equation, fit, refers to the match between actual stimulus characteristics and the category. Given two equally accessible categories, the one that best fits the stimulus information will be activated, and given equal fit the most accessible category is used.

Self-categorization theory has made use of Bruner's (1957) 'accessibility x fit' hypothesis to explain the salience of social categories (Oakes, 1987). In terms of accessibility, Bruner's determinants of current goals and circumstances are argued to apply equally to the social environment. Turner et al. (1994) refer to accessibility as 'perceiver readiness' and suggest it reflects the perceiver's past experience, present expectations and current motives, values, goals and needs. All perception is argued to be motivated perception in the sense that we are 'primed' to see what is important to us and to ignore what is unimportant (Oakes et al., 1994). Four basic effects of perceiver readiness in perception are outlined:

1. Through the influence of perceiver readiness stimuli are *elaborated* in terms of categories provided by one's own past experience and the body of ideas, theories and knowledge acquired from one's culture.

2. Perceiver readiness leads to the *selective* categorization of the world in a way that is *meaningful, relevant and useful* in terms of the needs, goals and purposes of the perceiver.

3. It ensures that the categories used by the perceiver *evaluate* reality from the perspective of his or her own standards, norms and values.

4. It represents and judges reality *from the vantage point of one's own place in it*, from the perspective provided by one's own position. (Oakes et al., 1994, p. 201, emphasis in original)

Perceiver readiness reflects the fact that all perception takes place from a human perspective and that our perception is always relative to ourselves, and thus reflects <u>our</u> goals, motives and values.

While acknowledging the importance of social category accessibility (or perceiver readiness[4]), and pointing to the need for further research in this area (see Oakes et al., 1994) self-categorization researchers have concentrated their efforts on specifying the determinants of <u>fit</u> for social categories. Social categorizations describe the invariances in human behaviour, at any one time, across individuals. The principle of meta-contrast, described above, can be used to predict when a social category will be salient or when a given stimulus, in context, will fit a given social categorization. A category likely to become salient is one with a contextually high ratio of inter- to intra-category differences; this ratio is called the meta-contrast ratio. In terms of social categorization this aspect of fit has been termed 'comparative' or 'structural' fit (Oakes, 1987).

Another aspect of fit has been identified which is referred to as '<u>normative</u>' fit. Oakes (1996) defines normative fit as "the match between category and the content properties of stimuli" (p. 103). Normative fit takes into account the social meaning of the comparative differences between persons; that is, such differences must make sense in terms of the broader expectations, background knowledge and theories that we hold about groups. Studies by Oakes, Turner and Haslam (1991) demonstrate more clearly

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[4] From Oakes et al. (1994), and Turner et al. (1994) onwards accessibility is referred to as perceiver readiness in order to make clear that the reference is not to stored representations waiting to be activated.

the role of comparative and normative fit in determining category salience. In Experiment 1 they investigated the effect of comparative fit on the salience of sex category membership while holding normative fit constant. Subjects viewed a tape-slide presentation of a six-person discussion group that varied in its sex composition, containing either one man and five women ('solo' condition) or three men and three women ('collective' condition). In addition, the pattern of agreement and disagreement between group members on a sex-relevant issue was varied such that either one person disagreed with five others who agreed among themselves ('deviance' condition) or three members disagreed with three others ('conflict' condition). The pattern of agreement was varied such that there was high concurrence between sex categorization and attitudes in the solo/deviance condition (one man disagreed with five women) and the collective/conflict condition (three men disagree with three women) but not in the other two conditions (solo/conflict — one man and two women disagreed with three women, and collective/deviance — one man disagreed with two men and three women). Subjects rated a constant target (a man) on a number of masculine and feminine traits, and made attributions for his behaviour.

Oakes et al. argue that according to the distinctiveness hypothesis of Taylor and colleagues (Taylor, 1981; Taylor et al., 1978, as discussed in Chapter 3) the sex categorization should be most salient in the 'solo' condition because this is where its distinctiveness is greatest. Alternatively they predicted that high fit would lead to greater salience of sex categorization as expressed by greater attributions of the target's behaviour to sex category membership and ratings of the target as more stereotypically male. Results showed that salience was highest in the collective/conflict condition where comparative fit was high.

In Experiment 2, Oakes et al. sought to vary both comparative and normative fit independently. Subjects viewed videos of six-person discussion groups that consisted of three arts students and three science students. The target persons discussed attitudes towards university life which had been shown to differ stereotypically for arts as opposed to science students. A target stimulus individual (an arts student) expressed a

view that was either consistent with, or inconsistent with, the stereotypical arts view (consistent vs. inconsistent conditions). In addition the groups were varied so that either one arts student disagreed with the other five students, who agreed with each other (deviance condition), or three arts students disagreed with three science students but both subgroups agreed among themselves (conflict condition), or all six group members agreed (consensus condition). On the basis of the principles of comparative and normative fit, Oakes et al. predicted that the arts/science categorization "was expected to be most salient where both faculty groups conform to the relevant stereotype and display correlated intragroup similarities and intergroup differences" (Oakes, et al., 1991, p.133). That is, it was predicted to be most salient in the consistent/conflict condition where comparative fit was 'maximised' in terms of maximum differentiation in attitudes, and normative fit was 'maximised' in terms of attitudes correlating in a stereotypical fashion with group membership. These predictions were supported by measures of both stereotyping of group members and attributions of attitudes to group membership.

Further support for this account of category salience comes from a study by van Knippenberg, van Twuyver and Pepels (1994). They presented subjects with stimulus persons in a discussion who were male and female students and teachers (there was no correlation between gender and occupation of stimulus persons). Discussion topics were varied such that they were either gender relevant (positive discrimination favouring women), relevant to academic status (consequences of course evaluations) or neutral. Likewise they manipulated the 'fit' between categorizations (male-female or student-teacher) and positions taken in the discussions (pro versus con). The salience of categorizations was measured by considering the within- and between-category errors that were made in allocating discussion statements to stimulus persons. More within- than between-category errors were taken to indicate greater use of that categorization. They found that when there was greater fit between a given categorization and stance on a discussion topic (e.g., males were against positive discrimination for women and

females were for it) there were stronger categorizations in terms of that category (see also Brewer, Weber & Carini, 1995).

Thus, self-categorization theory explains categorization in terms of perceiver readiness, comparative and normative fit. Importantly, these factors are argued to be always operating in interaction with each other to produce categorization. In contrast to the social cognition perspective self-categorization theory argues that:

> ... to predict categorization ... the entire range of stimuli under consideration, rather than isolated stimulus characteristics, must be taken into account. (Oakes, 1996, pp. 101-102)

Therefore, it rejects the idea of salience and categorization based on distinctive cues and views categorization as reflecting real comparative aspects of the stimulus array in interaction with the perceiver's background knowledge about stimuli and relations between them. In the next section we consider the implications of this account of categorization for the formation of stereotype content.

Implications for the formation of stereotype content

The process of categorization is argued to be highly context-dependent and therefore variable. This implies that categories are not fixed, waiting to be activated cognitive structures but are actively constructed to reflect comparative relations among a set of stimuli. Likewise, the comparative nature of categorization implies that the outcome of categorization, the perception of similarities and differences between groups (or stereotype content) is context-dependent and variable. Thus, the content of categories is implied to derive from the context-dependent perception of relative similarities and differences between groups in a given frame of reference. This implies that content derives from 'bottom-up' or data-driven processes (i.e., stimulus characteristics in context). However, the role of 'top-down' or theory-driven processes is also argued to be important in determining content. The perceived relative similarities and differences between groups must fit our background knowledge and theories about these groups and the relations between them (normative fit). Our expectations, theories, knowledge etc. also influence the formation of stereotype content. There must be a fit between this

stored background knowledge and relevant comparative aspects of the stimuli. Thus, stereotype content should reflect an <u>interaction</u> between data and theory. The role of both is argued to be equally important.

In addition, our perception of the world is argued to be socially shaped. In categorizing the world, we also categorize ourselves and perceive ourselves as similar to ingroup members and different from outgroup members. This in turn shapes our social behaviour and our perception of the world. The content of stereotypes (of our own and other groups) is argued to be <u>shared</u> within the ingroup (Haslam, 1997; Haslam, Turner, Oakes, McGarty & Reynolds, 1998). We look to our ingroup, to validate our beliefs. By processes of social influence (see Turner, 1991) we bring our beliefs (including the content of our stereotypes) into line with those of the ingroup. In this manner, the content of our stereotypes becomes consensual and is influenced by collective factors.

We now want to look at some of these implications in more detail and review some of the empirical evidence in support of these arguments. We begin by considering the role of <u>context</u> in categorization. We examine the structure of categories and role of perceived similarity in the categorization process, and the context-dependence of perceived similarity and stereotype content. We then review the influence of expectations, background knowledge and <u>theories</u> in categorization and in determining stereotype content. Finally we expand on the role of <u>collective factors</u> in the formation of stereotype content and look specifically at the role of self-categorization in explaining consensus in stereotype content.

The role of context

We discussed in Chapter 3 social-psychological models of impression formation, categorization and stereotyping based on assumptions that stereotypes are relatively fixed cognitive structures such as prototypes, schemas or exemplars, and that categorization is determined by <u>matching</u> stimulus attributes to some fixed category representation on the basis of their perceived similarity. Recent work from cognitive

psychology has been critical of views of categories as represented by fixed structures such as prototypes or exemplars. For example, Barsalou (1987) argues that:

> Invariant representations of categories do not exist in human cognitive systems. Instead, invariant representations of categories are analytic fictions created by those who study them. (p. 114)

Likewise, Medin and colleagues (Medin & Smith, 1984; Medin, 1989; Murphy & Medin, 1985) argue that prototype and exemplar views of categories suffer from having a view of similarity that is too unconstrained. Any two objects may be similar and dissimilar in an infinite number of arbitrary ways — we need to be able to decide which of these ways matter. They claim that categorization is much more flexible than presented in these accounts and that accounts of categorization in terms of simple similarity-matching are inadequate. The perception of similarities is argued to be constrained by both the context of perception (Medin, Goldstone & Gentner, 1993) and by the operation of background theories (Murphy & Medin, 1985).

Likewise, self-categorization theory rejects the idea of social categories as fixed cognitive structures that contain a relatively fixed content (Oakes et al., 1994; Turner et al., 1994; see also Ellemers & van Knippenberg, 1997; Potter & Wetherell, 1987). Importantly, self-categorization theory argues that the structure and meaning of a category varies with the context within which it is defined (Turner et al., 1994). Thus, a social category such as say 'feminist', varies in its meaning depending on the context. For example, it may mean different things depending on whether the comparative frame of reference includes radical feminists, traditional women or misogynists (David & Turner, 1992). Likewise, the prototype of this category varies with the context:

> Categories are not defined by a fixed prototype (or a fixed set of exemplars); they vary in the relative prototypicality of their members as a function of context. (Turner et al., 1994, pp. 457-8)

Prototypicality is argued to be determined by meta-contrast. The prototypical member of a social category will be that person who differs most from outgroup members and least from ingroup members on the relevant dimension of comparison (Oakes, Haslam & Turner, 1998). Therefore, a person seen as highly typical of a category in one context

may be judged to be less typical in another context. For example, an extreme ingroup member would not be seen as highly prototypical because they differ from the average views of the group. However, if the intergroup context changes to include an extreme (and opposite) outgroup, the extreme member becomes increasingly prototypical because their position maximises the ratio of intragroup differences to intergroup differences. Variability in prototypicality has been demonstrated extensively in research done on group polarisation effects (Hogg, Turner & David(son), 1990; McGarty, Turner, Hogg, David & Wetherell, 1992; Wetherell, 1987) and group cohesiveness (Hogg, 1992; Hogg, Cooper-Shaw & Holzworth, 1993).

A study by Haslam, McGarty, Oakes, Turner and Onorato (1995) demonstrated how judgements of prototypicality can vary with the salience of a categorization. In Experiment 2, subjects were presented with a video in which four people (confederates) discussed two issues: (1) 'all criminals should be helped rather than punished' and (2) 'the best way to solve the drug problem is for the present laws to be made much stricter'. The group reached a consensus which was to disagree strongly with the first statement and agree strongly with the second. The group contained both an extremist (who exemplified the group's pro-authority position) and a moderate. Subjects viewed the video discussion in one of three conditions: high salience, medium salience and low salience. These were designed to vary the context in which subsequent judgements of prototypicality would take place by manipulating the salience of the subjects' own anti-authority position. All subjects judged the prototypicality (representativeness) of the extreme and moderate group members. Results indicated that with increased salience the extreme group member was seen as increasingly more representative of the group than the moderate member. This suggests that the same person can be seen as more or less prototypical of the same category depending on the context (Haslam, McGarty et al., 1995).

Work from the self-categorization theory perspective investigating stereotype change also demonstrates the importance of comparative context in determining perceived prototypicality and similarity. As discussed in Chapter 3 researchers such as Hewstone

and colleagues (e.g., Johnston & Hewstone, 1992) have presented evidence that stereotype change is mediated by the prototypicality of disconfirming group members. That is, disconfirming information is more likely to be incorporated into a groups' stereotype if the group members who display disconfirming behaviour are in other ways prototypical. This accords with a view of prototypicality as relatively fixed and being determined by similarity between the stimulus attributes and a category representation. In line with the arguments presented above, Oakes and colleagues (Oakes & Dempster, 1996; Oakes, Haslam & Reynolds, 1999) argue that perceived prototypicality is context-dependent.

Oakes and Dempster (1996) report a study where they presented subjects with either dispersed, concentrated or no information about students from the Australian Catholic University (ACU). These students were generally judged to be conservative (as per a pretest). The comparative context in which these students were presented was manipulated. In one condition subjects read about ACU students in no explicit context — however there was the implicit context of comparison to themselves, Australian National University students, who are a comparatively less conservative group (Restricted Context). In the other condition subjects read about ACU students in the context of members of the Call to Australia party[5], a more conservative comparison group (Extended Context). The results indicated that in the restricted context the dispersed disconfirmers had more impact on stereotype change than the concentrated disconfirmers (as found previously by Hewstone and colleagues). In the extended context condition, however, the dispersed disconfirmers had less impact than the concentrated ones. The authors argue that in this extended context the prototype of an ACU student, in comparison to a more extreme group, had 'shifted' towards a less conservative position, therefore the disconfirmers in the concentrated condition had become more prototypical and therefore had more impact. In fact, the largest shift away from the 'conservative' stereotype was found in the concentrated/extended context condition. These results were replicated in a second study using the stereotype of

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[5]The Call to Australia party was an extremely conservative Australian political party opposed to such things as pornography and gay rights (now renamed Christian Democratic Party).

bushfire fighters (altruistic) and comparing them in the extended context to World Vision Volunteers (more extremely altruistic) (Oakes et al., 1999). Oakes et al. conclude that "comparative context can alter the category-attribute relationship" (p. 71) and therefore that the contents of categories are not fixed but context-specific. Thus, the fit between categories and content varies with context. Likewise what we judge to be confirming or disconfirming of a category is also not fixed but changes with changes in the prototype (which in turn varies with comparative context).

The view that categories are not represented by fixed structures such as prototypes has important implications for the content of categories and views on similarity-matching. Variability in prototypicality implies that the meaning of categories can change with context. If no fixed cognitive structure exists then accounts of categorization based on the similarity between stimulus attributes and stored features of the category (such as a prototype or schema) would appear to be inadequate. Simple similarity-based accounts seem insufficient to account for results such as the ones discussed above. The perception of similarity also appears to be context-dependent. It is argued that the structure, meaning and content of the same category can change with changes in comparative context. This suggests that for any given category there is not an enduring fixed representation of that category and its contents. Likewise, it suggests that the perception of similarity is constrained by context — things that appear similar in one context may appear dissimilar in another.

The above views of categorization imply that the similarities and differences we perceive between persons and groups depend on comparative frame of reference. This is argued and demonstrated by both researchers from cognitive psychology and self-categorization theorists. From cognitive psychology, Medin, Goldstone and Gentner (1993) argue that context influences our judgements of similarity such that:

> ... context tends to activate or make salient context-related properties, and, to the extent that examples being judged share values of these activated properties, their similarity is increased. (p. 257)

They argue that similarity should be understood as a <u>process</u> rather than a fixed quality of a stimulus or object.

Medin et al. (1993) present evidence from a number of studies to support their position. In Experiment 1, 20 picture triplets were constructed, consisting each of pictures A, B and C. Subjects were presented with 21 pairs of pictures, each containing either picture A and picture B, or picture B and picture C. For each pair, subjects were instructed to list the features the pairs shared and the features they differed on. Results indicated that the perceived properties of picture B depended on whether it was being compared to stimulus A or C. For example, in one triplet, A was a picture with three peaks, C was a picture with four peaks, and B was an ambiguous shape that could be interpreted as having three or four peaks. When comparing B with A subjects indicated that they shared the property of having three peaks whereas when B was compared to C subjects indicated that they shared the property of having four peaks. Thus subjects came up with mutually exclusive properties for B (3 versus 4 peaks) depending on the comparison context. This suggests that rather than a stimulus (such as B) having a set of fixed properties, the properties of a stimulus can vary depending on what it is being compared with.

In Experiment 3, subjects were presented with phrases (usually single words) that were either presented in pairs or in a combined context of three words. Subjects had to rate the similarity between pairs of words. Results indicated that similarity judgements depended on 'respects' highlighted by different contrast sets. For example, 'black' and 'white' were rated as quite different when presented in a pair, but seen as more similar when rated in a context that included 'red'. The authors argue that in the paired context people use a different standard of similarity and focus on different respects. When the antonyms 'black' and 'white' are compared on their own the difference between them is highly salient. The features they have in common become more important in the extended context.

The context-dependence of perceptions of similarity and difference has also been demonstrated in stereotyping studies using social stimuli. The research cited above demonstrated how judgements of prototypicality can vary with context. Other studies have demonstrated changes in stereotype content to reflect context. For example, Haslam, Turner, Oakes, McGarty and Hayes (1992) aimed to show that stereotype content varied with both changes in <u>context</u> and with social change. The study involved Australian students stereotyping Americans, and was conducted during the time of the 1990-91 Gulf War which followed the Iraqi invasion of Kuwait. There were two phases of the study — one at the start of the war and one at the end. It investigated how the allocation of stereotypical traits to Americans changed with: (a) social change and changes in intergroup relations brought about by the war, and (b) with changes in the frame of reference provided by relevant comparison groups. In other words, the study sought to show how the <u>content</u> of stereotypes of Americans (as held by Australian students) changed with changes in context and intergroup relations.

Initially (phase 1) subjects were asked to characterise persons from the USA using a Katz and Braly (1933, 1935) type checklist. To manipulate frame of reference, the United States was presented to subjects either with two other comparison countries, Australia and Britain (Restricted Range), three comparison countries, Australia, Britain and the Soviet Union (Medium Range) or four comparison countries, Australia, Britain, the Soviet Union and Iraq (Extended Range) (see Diab, 1963a, 1963b). After the conflict (phase 2) subjects' stereotypes of Americans were again assessed in the three frames of reference. Results showed that the content of stereotypes applied to Americans (the traits checked in the checklist) varied with both frame of reference and social change. Given that the majority of subjects were against the war, Americans were perceived more negatively after the war (phase 2) than prior to the war (phase 1) in the restricted frame of reference. They were also seen more negatively in the first phase of the conflict when the frame of reference was extended to include Iraq as a comparison group. The authors conclude that "stereotype content varied across experimental

conditions as an interactive function of both large-scale social change and the intergroup relations associated with specific frames of reference" (Haslam et al., 1992, p. 14).

Other studies which are pertinent to the context-dependence of stereotype content are those dealing with the outgroup homogeneity effect. As discussed in Chapter 3, this effect states that there is an asymmetry between the perception of outgroup and ingroup members such that outgroups are seen to be more homogenous than ingroups. According to self-categorization theory there is no necessary asymmetry in the perception of outgroups and ingroups, and the existence of this effect is context-dependent. In an intergroup context, where social identity is salient, both outgroups and ingroups should be perceived to be homogenous because perceivers accentuate differences between and similarities within both groups. However, in an intragroup context, where one's personal identity becomes salient, perceivers are more likely to try to differentiate themselves from other ingroup members and thus the ingroup is perceived as relatively heterogenous. Self-categorization theorists suggest that the reason for numerous experimental findings of the outgroup homogeneity effect reflect the fact that judgements of the outgroup have been in an intergroup context (because when perceiving an outgroup there is always an implicit ingroup i.e., self) whereas judgements of the ingroup have been carried out in an intragroup context.

An emerging body of research has aimed to demonstrate that the perception of group homogeneity is context-dependent (e.g., Haslam, Oakes, Turner & McGarty, 1995; 1996; Kelly, 1989; Oakes et al., 1994; Simon, 1992; Simon & R. J. Brown, 1987). For example, a study by Haslam, Oakes et al. (1995) looked at how the variability of traits assigned to Americans and Australians, by Australian students, changed depending on the context (intergroup vs. intragroup). They found that in an intergroup context the traits assigned to both groups were perceived to be equally variable (i.e., both groups were seen as equally homogenous) whereas in an intragroup context, the variability of traits assigned to ingroup members were seen as more variable than in the intergroup context. The researchers also suggest that the valence of the traits assigned may be important. That is, there are motivational reasons (see social identity theory, Chapter 2)

why we may wish to assign more positive traits to the ingroup than the outgroup. This may result in positive traits being seen as less variable for the ingroup but more variable for the outgroup, and vice versa for negative traits. This implies that groups are not seen as homogenous in "a general, content-free manner" (Oakes et al., 1994, p. 170).

The content of self-stereotypes has also been shown to vary with context. For example, a series of experiments by Haslam and Turner (1992, 1995) demonstrated variability in perceived similarity of others to self with changes in context. In one study (1992, Experiment 1), subjects were all told that they were "slightly pragmatic" and were then asked to judge a target who was predominantly pragmatic. They found that even though the 'absolute' difference between target's position and subject's position did not change, subjects judged that target to be more similar to themselves as the extent of the frame of reference increased and as number of comparison points increased. Therefore, even though the 'distance' between the subject and the target had not changed in 'objective' terms, judgements of similarity and difference did change with relative changes in the positions of subject, target and the frame of reference in which these were perceived. Likewise, Onorato and Turner (1996, 1997; Turner & Onorato, 1999) have demonstrated that the content of self-stereotypes can vary depending on whether an intragroup or intergroup context is made salient.

The role of expectations, theories and background knowledge

The research discussed above considers the comparative aspects of category fit and how the perception of similarity, difference and category content varies with changes in context or frame of reference. Likewise much of the research demonstrates how what is considered consistent with a category, or normative, can also change with changes in the comparative context. We judge certain traits to be typical of, or consistent with, firefighters or Americans in one comparative context and not in another. While comparative context has been demonstrated to be extremely important, the formation of categories and category content also depends crucially on normative fit and perceiver readiness. Comparative and normative fit are inseparable and interactive (Oakes et al., 1994; Turner et al., 1994). It is not enough that there are differences between groups for

categorization to occur in terms of those differences. These differences must also be in the right direction; that is, in a direction that makes sense in terms of our expectations, background knowledge and theories about these groups. We now want to elaborate on the role normative fit plays in the categorization process and in determining stereotype content.

There is much evidence pointing to the importance of normative factors and expectations in stereotyping. For example, we reviewed considerable evidence in Chapter 3 which suggests that our expectations about groups influence how we process information about those groups and how we stereotype them. Earlier in this chapter we discussed studies by Oakes et al. (1991) and van Knippenberg et al. (1994) which demonstrated the role of normative fit in category salience. However, in these studies normative fit was operationalised in terms of consistency between attitudes and categories defined by labels (e.g., arts/science students) which suggests that perceivers may have a set of relatively fixed expectations about a category cued by a label (e.g., Fiske et al., 1987). However, Oakes et al. (1994) make it clear that they are not arguing that normative fit is simply connected with a fixed set of expectations and knowledge about groups; rather the expectations and knowledge we draw upon are much broader and more flexible. In articulating the role of these factors in categorization, self-categorization theory has drawn on work from cognitive psychology that has demonstrated that categorization is influenced and constrained by our background knowledge and theories (Oakes et al., 1994; Turner et al., 1994; Turner & Onorato, 1999). We now briefly outline some of that work.

Neisser (1987) distinguishes between the operation of 'ecological' and 'intellectual' factors in categorization. Ecological factors are those represented in the stimulus environment and relate to the concept of 'comparative fit'. Intellectual factors include our theories and knowledge about the way the world is and should be. Medin and colleagues argue that it is people's background theories that guide and constrain which stimulus attributes provide a relevant basis for meaningful categorization. They argue

that our perception of similarities and differences, as well as being constrained by comparative context, is guided and constrained by our theories.

Murphy and Medin define a theory as "any host of mental 'explanations' rather than a complete, organised scientific account ... the term connotes a complex set of relations between concepts usually with a causal basis" (1985, p. 290). They argue that concepts are best thought of as theoretical knowledge rather than lists of attributes. Importantly, the lists of attributes that may be chosen to represent any concept are constrained by the theories and knowledge underlying that concept. Thus, on any given occasion in describing a category we would not list every possible attribute associated with that category — rather, we would list those relevant and diagnostic of our theory and background knowledge. For example, even though the attribute 'flammable' may be applicable to both wood and money, it is likely to be more important in our representation of wood because of the knowledge and theories we have about the role of money and wood in our society (Murphy & Medin, 1985).

Theories and knowledge drive the selection of attributes and the perception of similarity. For example a study by Rips and Handle (1984, cited in Medin & Wattenmaker, 1987) has shown subjects' perception of similarity and subsequent categorization of objects was driven by their knowledge about potential variability in the size of pizzas and coins. They asked subjects whether an object 5 inches (approximately 12.5 cm) in diameter was more likely to be a coin or a pizza. The object's size was actually roughly halfway between large coins and small pizzas. However, although the object was equally similar to coins and pizzas in terms of size, subjects were more likely to categorize it as a pizza. The explanation offered for this is that coins do not vary in size (because their size is fixed by law) whereas pizzas may vary. Medin and Shoben (1988, cited in Medin, 1989) found that subjects judged the terms white hair and grey hair to be more similar than grey hair and black hair, but judged grey clouds and black clouds to be more similar than grey clouds and white clouds. White and grey hair are linked by our knowledge of aging whereas grey clouds and black clouds are linked by our knowledge about potential stormy weather.

It is argued that any two entities can be alike and different in a potentially infinite number of ways. Our theories and knowledge guide us to look for certain similarities and differences. This point is illustrated by the results from rule induction studies discussed by Medin and Wattenmaker (1987). In one study subjects were presented with pictures of two sets of trains which were labelled either 'trains run by smugglers' versus 'legal trains', or 'trains constructed by creative children' versus 'trains constructed by uncreative children', or 'trains that travel in mountainous terrain' versus 'trains that travel in flat terrain'. Subjects had to come up with rules for what features separated the two sets of trains. They found that although the actual trains across conditions were identical, the labels produced different rules. For example a feature differentiating the mountainous versus flat trains was the loads they were carrying, whereas for the smuggler train category subjects mentioned the 'diamond-shaped' load. It appears that the labels acted like (or made accessible) certain theories and that these in turn made certain properties more salient. In another study subjects were presented with children's drawings and told that they were drawn by 'mentally healthy' versus 'disturbed' children, or 'creative' versus 'non-creative' children, or 'farm' versus 'city' children. Subjects appeared to take notice of and mention features or attributes that were meaningful in terms of their knowledge about these different groups. For example, when drawings were labelled as done by farm children subjects noticed that the drawings had some animal parts in them, whereas when the same drawings were labelled as done by creative children no subjects mentioned the presence of animal parts. Medin and Wattenmaker (1987) argue that "these observations suggest that the drawings do not manifest some fixed set of properties that vary in salience so much as they 'support' a limitless set of properties that derive from the interaction of the drawings with the particular observers" (pp. 49-50). The point is that our theories can lead us to 'see' or interpret the same attribute differently and also guide us to 'seeing' different bases for similarity and difference.

Similar findings emerged from a recent study reported by Wittenbrink, Hilton and Gist (1998). They presented participants with a set of drawings of persons ostensibly done by

aliens (called Gnolkanians) of Earthlings. In one condition participants were told that the Gnolkanians' body surface was entirely covered with a vinyl-like substance and therefore they were surprised by Earthlings' skin ('appearance' explanation). In the other condition they were told that for Gnolkanians it was a virtue to hide all emotions in public and therefore they were surprised by Earthlings' display of feelings ('inner state' explanation). All participants received the same set of 20 drawings and were instructed to sort them into groups of similar drawings as they saw appropriate. Results indicated that participants' background knowledge about the stimuli influenced how they sorted the drawings with different clusters of similarity formed across the two conditions.

Medin and colleagues argue that it is theories that make our concepts coherent and meaningful. Thus categories are not based on <u>any</u> set of similarities, or even a <u>certain</u> set of similarities, but rather similarities that make sense in terms of our theories and knowledge. Categorizing depends on these theories which both guide the search for similarity and constrain it. Thus:

> the relationship between a concept and an example is analogous to the relation between theory and data. That is classification is not simply based on a direct matching of the concept with those in the example, but rather requires that the example have the right 'explanatory relationship' to the theory organising the concept. (Medin, 1989, p. 1474)

These ideas are very similar to self-categorization theory's notion of normative fit. While comparative fit and meta-contrast play an important role in the categorization process, relative similarities and differences must be in a normative direction for a given categorization to occur. <u>The important point is that normative fit is not argued to represent a fixed expectation or category to which stimulus data is matched</u>. Normative fit involves taking into account the social meaning of observed differences between groups. Our long-term knowledge about the world is not conceptualised as containing set categories but rather as containing information that can be flexibly applied to the categorization process. As Oakes et al. (1994) argue:

there is no one-to-one correspondence between the long-term knowledge we have about what different kinds of groups are like and the actual social category that is constructed to represent them in any given setting. (p. 122)

Other work from social psychology is supportive of the idea that cognitive knowledge structures (or theories), that are broader than fixed representations of groups or schemas, influence the categorization process. For example, the social judgeability theory of Leyens, Yzerbyt and Schadron (1994) argues for the importance of theories in interpreting data. This theory argues that "people do not just rely on data and theories about data but also upon theories about judgements" (p. 7). Leyens et al. suggest that criteria other than at the level of <u>objective reality</u> need to be considered when examining a social judgement. These include the <u>cultural, integrity</u> and <u>theoretical</u> levels. At the level of reality the problem is to adequately integrate categorical and individuating information so as to match reality as well as possible. With the other levels the aim is to find a <u>useful fit</u> rather than an exact match with reality (see also Fiske & Leyens, 1997; Leyens & Fiske, 1994). Thus the aim of social judgement is not to reflect reality but to find a solution that allows people to function socially as well as possible. The reality level focuses on data and theories about data; the other levels deal with theories that judges hold about their judgements.

At the reality level theories about data are assumed to be the same as schematic knowledge (as proposed by the social cognition perspective — see Chapter 3). Leyens et al. argue that "theories attract data" (p. 149), and so, in common with the social cognition perspective, they argue that perception is biased to favour theories or category-based judgements. At the level of integrity, motivational factors operate and perceivers are motivated to retain the social integrity of self and group (see social identity theory, Chapter 2). At the cultural level people respect cultural rules such as those against stereotyping. At the theoretical level a judgement of others incorporates an explanation and constitutes an 'enlightening gestalt'. They argue that when trying to find the best match between data and theories about data people are influenced by personal and social integrities and also affected by social rules about the appropriateness

of the judgement. For example, it may be considered inappropriate to stereotype unless one has sufficient information to make such a judgement.

Experiments by Yzerbyt, Schadron, Leyens and Rocher (1994, Experiments 1 and 2; see also Yzerbyt, Leyens & Corneille, 1998) sought to address this idea. The first part of Experiment 1 involved subjects receiving minimal category information about a person's profession. They were told a target person was either a comedian or an archivist, professions thought to be diagnostic of extroversion and introversion respectively. In the second part of the experiment subjects performed a vigilance task where they were asked to 'shadow' a text during a dichotic listening task. In the third part of the experiment half the subjects learned that they had been given information about the target in their non-listening ear during the vigilance task (although all subjects were actually given no information). Subsequently subjects rated the target as more introverted or extroverted (depending on profession) when they believed they had received the additional individuating information compared to those who did not receive this information. It appears subjects were more willing to make a judgement when they believed that they had more information available to make a judgement, and because the only information actually available was categorical information their judgements corresponded to stereotypes. In a second experiment, some subjects were told they had received information about the category in general (e.g., comedians) rather than the particular target. They were less willing to make a categorical judgement. Thus, Leyens et al. argue that stereotyping is not only influenced by theories about data (like schemas) but also by 'theories about theories' such as the appropriateness of making stereotypical judgements.

Yzerbyt et al. (1997), building on the social judgeability perspective and drawing on the work of Medin and colleagues, argue that people may "quite heavily rely on their naive theories to organise incoming information" about target persons or groups (p. 27). As discussed in Chapter 3, they suggest that people may hold 'essentialist' theories such that surface attributes of individuals are believed to reflect deeper underlying dispositions (see also Medin & Ortony, 1989; Rothbart & Taylor, 1992). Employing

such a theory is argued to result in the accentuation of observed differences between groups. A study by Hoffman and Hurst (1990; see Chapter 3) found that subjects who produced an <u>explanation</u> for observed category-role correlations stereotyped more than those who did not. Likewise, we have reviewed in Chapter 3 work by Dweck and colleagues (Chiu et al., 1997; Dweck et al., 1993; Dweck et al., 1995a, 1995b; Levy & Dweck, 1998; Levy, Stroessner & Dweck, 1998) which demonstrates that people who hold 'entity' versus 'incremental' theories show differences in the ways they encode and organise incoming social information, with entity theorists more likely to demonstrate stereotyping. Chiu et al. argue that while these implicit theories are rarely articulated "they may set up an interpretative frame within which information is processed" (p. 19).

Recent work by Wittenbrink and colleagues (Wittenbrink, Gist & Hilton, 1997; Wittenbrink, Park & Judd, 1998) has also considered "the role that higher order structural properties of stereotypic knowledge play in the processing of social information" (Wittenbrink et al., 1997, p. 526). They argue that our stereotypic knowledge does not just include the attributes of groups but also a causal structure concerning the links between those attributes and to the perceiver's wider knowledge about the world. Thus stereotypes serve as 'explanatory frameworks' which allow us to construe cause and effect relations:

> Stereotypic construal, then, is not only a consequence of the perceiver's stereotypic assumptions regarding additional, potentially unobserved, or so far unnoticed, trait characteristics but also a result of the constraints stereotypic knowledge places on the potential causal connections among the various pieces of information. (Wittenbrink et al., 1997, p. 528)

In a series of experiments Wittenbrink et al. (1997) sought to examine how stereotypic causal assumptions influence the encoding of stereotype-relevant information. In Experiment 1 they considered causal stereotypic assumptions regarding African Americans. They propose that there are two opposing causal models concerning white Americans' beliefs about African Americans — a 'perpetrator' model which holds that African Americans are "individually responsible for economic failure and low social status" and a 'victim' model which holds that "the lower social status and economic

failure of African Americans is due to structural disadvantages" (p. 527). They screened white college students for their belief models concerning African Americans using the Modern Racism Scale (MRS: McConahay, Hardee & Batts, 1981). Students identified as holding either a 'victim' model (low score on the MRS) or a 'perpetrator' model (high score on the MRS) participated in the next phase of the experiment. They read a trial summary which described a male basketball player (either African American or white) who was accused of assaulting one of his teammates (of the opposite race). Subjects' explanations for the events described were analysed for their explanatory structure. Subjects with different MRS scores tended to construct different causal explanations for the events with high MRS subjects more likely to blame an African American versus a white player for initiating the incident, a vice versa for the low MRS subjects.

In Experiment 2, Wittenbrink et al. sought to rule out the possibility that subjects in Experiment 1 may have been motivated to develop post hoc explanations that were consistent with their initial stereotypes of the two groups. Subjects' victim or perpetrator models were 'primed' by having them read and respond to one of the trial summaries from Experiment 1, which described an African American basketball player assaulting a white player, where the majority of the basketball team was white. In a supposedly unrelated experiment, subjects then viewed animated films of fish which either: (a) showed a lone fish (the target) and a group of fish in an antagonistic situation where the cause of the antagonism remained ambiguous (e.g., a lone fish approaching a group of fish who then moved away from the lone fish), or, (b) showed a group of fish including the target moving together (non-antagonistic). Wittenbrink et al. predicted that the primed explanatory models concerning African Americans (either victim or perpetrator) would be used to explain the interactions between the fish in the ambiguous situations (where the models were applicable) but not in the non-antagonistic situation (where the models were not applicable). Results showed that subjects interpreted the target fish's behaviour in the antagonistic situations in a way that was consistent with their model, with differences between high MRS and low MRS subjects. This suggests

that construal effects may occur even when subjects are not motivated to maintain stereotype consistency. In addition, no differences between high and low MRS subjects' ratings of the target fish were found for the non-antagonistic situation. Thus, while there was a transfer of the original stereotypic construal to stimuli unrelated to the stereotype these construal effects "emerged only when the target episodes provided a potential match with the activated stereotype" (Wittenbrink et al., 1997, p. 539). That is, the 'models' were only applied to the stimuli when they provided a fit with the stimuli.

The research discussed above suggests that theories and knowledge can influence both the interpretation and categorization of stimuli. These theories, knowledge and expectations that influence the categorization and stereotyping process are conceived of as broader and more complex than, for example, simple category schemas. Importantly, such theories do not simply contain content about specific social groups but may reflect broad systems of beliefs about the world and how it operates (e.g., Just World Hypothesis: Lerner, 1980) or expectations about the appropriate way to process social information (see Leyens et al., 1994). This last point has been demonstrated by work on the illusory correlation effect by self-categorization theorists. As has been argued above, subjects faced with the standard illusory correlation task expect the two groups to differ in some way. Therefore, removing this expectation should attenuate the effect. This was tested in a study by Haslam, McGarty and P. Brown (1996). The task was identical to standard illusory correlation studies except in one condition subjects were given an expectation that there were less grounds to meaningfully differentiate between the two groups on the evaluative dimension. This was done by telling subjects in one condition that handedness was the reason for labelling the two groups and that the larger group were right-handers whereas the smaller group were left-handers (as occurs naturally). They found that subjects given this expectation demonstrated less illusory correlation compared to those in a control group. Similarly a study by Berndsen (1997, Study 2.2) demonstrated that data-based illusory correlation can be eliminated when there are no expectations of differences between groups. Subjects were either given the standard group labels A and B, or told that one group were students from the year 1993 and the

others from 1994. Manipulation checks showed that subjects expected groups A and B to be more different than students from 1993 versus 1994. Higher illusory correlation was found in the A versus B condition compared to the condition where expectancies of intergroup differences were lower.

The evidence discussed above has important implications for the content of categories. It suggests that the content of categories is not fixed but varies both with comparative context (as discussed above) and with changes in the theories and knowledge being made use of in that context. Category or stereotype content is deployed in flexible ways according to the principles outlined above:

> The content of categories is selectively varied to match what is being represented in terms of our background theories and knowledge. It is therefore not a fixed category content being applied: the stereotype content is selectively constructed to describe, make sense of and rationalise the context-specific differences observed, to differentiate groups meaningfully in terms of the interplay between background knowledge and immediate data. (Oakes et al., 1994, p. 122)

This also implies that there is no fixed consistency between a given category and a given content but that "a given attribute could, in principle, match any number of categories" (Oakes et al., 1994, p. 122). Likewise, a given category could be meaningfully represented by any number of different attributes. The consistency or similarity between an attribute and a category varies with both comparative context, and with background theories. We discuss these ideas in more detail in the next chapter.

The role of collective factors

Thus far, we have largely focussed on individual determinants of stereotype content; that is, the role of context and the role of individuals' expectations, knowledge and theories. However, as discussed earlier, self-categorization theory argues for an interactionist approach which involves both the role of common cognitive processes and of shared social knowledge. We have already discussed evidence that suggests that whether one perceives others as ingroup or outgroup members can influence how they are stereotyped. In this section we consider briefly how categorizing self as an ingroup member can influence the categorization process and the formation of content. Haslam

(1997; Haslam, Turner, Oakes, McGarty & Reynolds, 1998) argues that one of the consequences of self-categorization in terms of a social category is that one expects to agree with others one categorizes as similar to one's self (see Turner, 1991). One looks to common ingroup members to validate one's beliefs. Thus we engage in 'social reality testing' to check the correctness of our subjective beliefs (Turner, 1991). Through a process of 'referent informational influence' our beliefs form and become shared (Turner, 1991). McGarty and Turner (1992) argue that social categories are implicit social norms. Categorizing is a 'social normative' activity that is anchored in our reference groups. They demonstrated that social influence impacts upon both the strength of categorization effects and judgemental confidence, and thus mediates cognitive processes.

Social influence from the groups we identify with, as well as affecting the categorization process, can also influence the content of our categorizations. Recent studies by Haslam and colleagues (Haslam, 1997; Haslam, Oakes, McGarty, Turner, Reynolds & Eggins, 1996; Haslam et al., 1998) explicitly address the foundations of stereotype consensus and the role of social influence in consensus regarding stereotype content. Specifically, a series of studies aimed to explore the impact of shared ingroup norms on the stereotyping process (Haslam et al., 1996). In Experiment 1, Australian students (attending the Australian National University or ANU) were asked to make judgements about an ingroup (Australians) and an outgroup (Americans). Before completing the task, subjects were given information about the traits other people had previously used to characterise Australians and Americans. These traits where either consistent or inconsistent with the stereotype of the two groups. In addition, the source of the traits was either an ingroup (ANU students), an outgroup (prejudiced people) or an ingroup-not-outgroup (unprejudiced ANU students). Subjects were then presented with three traits that either described Australians or Americans and had to decide on the percentage of people from Australia and the percentage of people from the United States that each trait applied to. The results showed that the relative applicability of stereotype-

consistent traits was enhanced when an ingroup source validated these beliefs or an outgroup source contradicted these beliefs.

In a second experiment, Australian students had to assign traits from a checklist to either Americans or Australians. Again they were informed which traits (five in total) had been previously endorsed by either unprejudiced ANU students (ingroup) or prejudiced people (outgroup). These traits were either stereotype consistent or stereotype inconsistent. Subjects had to choose from the checklist the five traits they thought were most typical of either Australians or Americans. Results showed that stereotype consensus varied as a function of both the source and consistency of the traits. Overall, there was more stereotype consensus when the source was ingroup compared to outgroup. In addition, for an ingroup source there was more consensus when traits were consistent versus inconsistent, whereas the opposite pattern was found for an outgroup source. It is argued that these results indicate that stereotype content "is shaped by (and comes to represent) shared ingroup norms" (Haslam, 1997, p. 137).

Thus the way we categorize others, in terms of both process and content, is influenced by our self-categorizations. Because in categorizing others we always also implicitly categorize ourselves, all our stereotypes of others will be from the perspective of our ingroup, and will be influenced by the norms of our ingroup. Presumably they are also influenced by knowledge, theories and ideologies shared within our ingroup. We expand on these ideas in the next chapter.

It should be noted that while we have discussed individual and collective determinants of stereotype content to some extent as if they are separate factors, self-categorization theory argues that stereotyping is determined by an interaction between these two factors. Thus, it is not the case that the collective factors are merely 'tacked on' to the individual cognitive analysis. Content is not only socially determined because it derives from socially-shared beliefs but also because social factors impact upon the categorization process which determines content. Social categorization reflects the perceiver's goals, motive, expectations, knowledge and theories which are all socially

mediated and derived (Turner & Onorato, 1999). Social categories represent people in terms of social comparative properties and thus reflect social context (Turner & Onorato, 1999). Via the categorization process, via self-stereotyping or depersonalisation, individual perception is transformed into collective perception and perceivers draw upon the shared values, norms and knowledge of the collective in stereotyping. The cognitive functioning of the individual mind is always mediated by social factors, by the interaction between individual and society. Thus while we may talk about individual cognitive processes (and the empirical focus of this thesis is largely on those processes - see Chapter 6) it is important to keep in mind that these processes always operate in interaction with social context and social processes (Turner & Oakes, 1997).

Conclusion

In this chapter we have reviewed interactionist approaches to stereotype content. Like collective approaches (reviewed in the previous chapter) this perspective provides an alternative to social cognitive accounts which emphasise the role of individual cognitive processes. Like discursive social psychology, interactionist approaches, such as self-categorization theory, argue against the idea of stereotypes and their content as 'pictures in our heads' waiting to be activated. Rather, content is produced via an interaction between perceiver readiness, contextual factors, and theories, expectations and background knowledge. We have reviewed considerable evidence supportive of the idea that stereotype content is both context- and theory-dependent. In contrast to discursive approaches, self-categorization theorists argue for the role of both individual cognitive processes and collective processes in determining stereotype content. The role of both 'bottom-up' and 'top-down' processes, and of individual and group-based processes, are argued to be crucial to give a complete account of the formation of stereotype content. The link between data and theory is argued to be in the form of fit (both comparative and normative).

In the next chapter we consider further the interaction between theory and data, and between the individual and the collective, in determining stereotype content.

Chapter 6

Issues and Processes in the Formation of Stereotype Content

In the previous four chapters we have reviewed both early and contemporary approaches to stereotyping with respect to their implications for the formation of stereotype content. In this chapter we take a closer look at the important issues that have emerged from that review with the aim of arriving at an account of the formation of stereotype content. We conclude this chapter with a statement of the aims and hypotheses of this thesis, derived from this account, and by briefly outlining the empirical strategy to be adopted.

Issues in the formation of stereotype content

A number of crucial similarities and differences have emerged from our review of the literature. For example, the nature of stereotype content has been conceptualised in a number of contradictory ways: as relatively fixed and difficult to change versus flexible and context-dependent, as a biased and overgeneralised representation of the features of individuals versus a psychologically valid representation of group realities, and as individually based and idiosyncratic versus consensual and collectively derived. Likewise, content itself has been variously treated as both central to our understanding of stereotyping and as unimportant and peripheral. Related to these different conceptions of the nature of content are two key themes or 'tensions' that emerge from our review of the stereotyping literature. The first of these is the role of bottom-up versus top-down processes in determining stereotype content. Another way of stating this is: to what extent is stereotype content based on the stimulus data perceived and to what extent is it derived from the abstract ideas, processes and knowledge of the perceiver and dependent on their motivations, needs, goals etc.? Most accounts we have reviewed agree, to a greater or lesser extent, that both data and theory have a role to play in determining content. Likewise, most attempt to find a <u>link</u> between data and theory by considering the impact they have upon each other. However, important differences

exist across accounts in terms of the priority given to either theory or data, and likewise how the link between the two has been conceptualised.

A second, and related, tension that emerges from our review is the distinction between individual versus collective factors in determining stereotype content. While personality-based and social cognitive accounts have emphasised the role of the individual determinants of stereotyping, others have emphasised the role of collective factors (e.g., social representations theory) or considered an interaction between individual and social factors (e.g., self-categorization theory). In addition, within those accounts that emphasise the importance of group memberships, shared knowledge and beliefs, and the consensual nature of stereotype content (e.g., social representations theory, discourse analysis, self-categorization theory) differences are apparent in terms of the role of the group, how the group is conceptualised and explanations of how consensus is arrived at within collectives.

As previously noted, most contemporary perspectives have been influenced by, and build upon, Tajfel's analysis of the role of categorization in stereotyping. This is especially true of the social cognitive approach and of self-categorization theory. However, understandings of the nature and outcomes of categorization differ significantly between these two accounts. Connected with these different treatments are divergent understandings of the role of data versus theory, and of individual versus collective factors in the formation of stereotype content. All these variables have important roles to play in the categorization process. Therefore, in considering the two key themes outlined above it is important to examine concurrently assumptions concerning the nature of categorization.

To arrive at an account of the processes involved in the formation of stereotype content, it is vital to consider the issues articulated above in further detail, and in doing so to resolve or account for the apparent differences. Specifically, we want to examine the nature of categorization, the role of theory versus data (and their interaction) and the role of individual versus collective variables. In the following section we briefly recap

what the different perspectives have argued with respect to these issues and compare and contrast the differences across accounts.

A closer examination of the issues

Our intention, in this examination, is not to go back over all the literature reviewed to date but rather to draw upon that which is most pertinent to the issues raised. Thus, in our examination of these issues we concentrate on contemporary accounts of stereotyping, drawing on earlier literature where appropriate. In considering the first issue, that is the role of theory versus data (and the nature of the categorization process), we focus on contrasting the social cognition perspective with self-categorization theory. This is because it is these two accounts that have been most explicit with respect to the cognitive processes operating in stereotyping. When considering the role of individual versus collective factors, we contrast social cognitive with both collective and interactionist accounts. Likewise, we examine differences between collective and interactionist accounts in terms of how the influence of 'social' factors has been explained.

Data versus theory

Within the social cognition perspective a distinction is made between the formation and application of categories and stereotypes (and by implication the formation and application of stereotype content). Generally stereotypes are argued to form on the basis of perceived differences between groups. Categorization plays a role at this stage in that it acts to accentuate actual differences between groups. Indeed, stereotypes may form when no real differences exist between groups because of the operation of cognitive biases such as the perception of illusory correlations (e.g., Hamilton & Gifford, 1976). While the perception of differences between groups is necessary for the formation of a stereotype, it is not sufficient and it is argued by some that categorization does not always lead to the development of a stereotype (e.g., Mackie et al., 1996). This only occurs when a set of generalised beliefs become associated with a group or category label in memory (Stangor & Lange, 1994). Stangor and Schaller (1996) argue that

researchers from the social cognitive tradition have tended to focus on the 'bottom-up' determinants of stereotypes in that stereotypes form on the basis of direct observation of, and contact with, group members. This is also apparent in the stereotype change literature, where change in content is brought about by contact with individual group members. However, it should be noted that the direct observation of data is not argued to be accurately represented in memory; rather its perception is filtered by various cognitive processes such as illusory correlation, correspondence bias and indeed the categorization process itself. This implies that the content that forms is an inaccurate representation of reality. While some researchers are more inclined to argue that stereotype content forms to reflect actual differences between groups (e.g., Eagly & Steffen, 1984, 1986; Ford & Stangor, 1992; Hoffman & Hurst, 1990; Jussim, 1990, 1991; Zebrowitz, 1996), they tend to agree that once formed, stereotypes are stored in memory waiting to be activated.

The application of a stereotype and its content to the judgement of a person depends on the categorization of that person. Categorization must occur before a stereotype is applied. Such categorization may occur relatively automatically based on highly accessible categories triggered by distinctive cues (Brewer, 1988; Devine, 1989; Fiske & Neuberg, 1990). The confirmation of an initial categorization depends on the perceived similarity or fit between salient features of the stimulus person and the stored category, which may be structured as a prototype, a schema or a set of exemplars (Brewer, 1988; Fiske & Neuberg, 1990; Smith & Zarate, 1992). If an appropriate fit is achieved, the subsequent impression of the stimulus person is based on the activated stereotype. While stereotyping appears to be based on an interaction between data and theory (linked by fit), stereotypes are argued to bias the perception and processing of data in favour of their own confirmation.[6] In the service of cognitive economy, if a fit can be achieved between an activated stereotype and the stimulus it will be. This occurs through processes that tend to favour the attention to, encoding of and recall for

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[6] The process of anchoring, as articulated in social representations theory, appears to have much in common with this approach to categorization in that unfamiliar objects are compared to the 'paradigm' of a category, adjusted to fit the category, and acquire the characteristics of that category

stereotype-consistent (or fitting) versus stereotype-inconsistent information. We have reviewed considerable evidence in Chapter 3 which supports the notion of a bias towards stereotype-consistent information in impression formation. Likewise, evidence from stereotype change studies indicates that stereotype-inconsistent information tends to be 'subtyped' leaving the original stereotype intact unless it is associated with otherwise stereotype-consistent information (e.g., Johnston & Hewstone, 1992). Therefore, in the application of stereotype content 'top-down' processes tend to dominate. Data plays a role in so far as it must be sufficient to trigger a category and provide adequate fit with it. However, the subsequent judgement of the stimulus person is based upon the stored representation of the category they are deemed to belong to; thus the content of the stereotype applied derives from abstract knowledge about that category. Indeed, categorization and stereotyping are defined in impression formation models as 'top-down' processes (Brewer, 1988; Fiske & Neuberg, 1990). While more data-based or bottom-up processing is argued to be possible, it is distinguished from stereotyping. Thus impressions based solely on data are individuated impressions and not categorical.

Many of the differences from the above view apparent in alternative accounts of stereotyping, such as self-categorization theory, arise from a very different understanding of the categorization process. According to self-categorization theory, all perception involves categorization (see Bruner, 1957). Therefore, no distinction is made between categorical impressions (which above are argued to be dominated by top-down processes) and individuated impressions (bottom-up). All impressions, even those of individuals, are argued to be categorical (see Reynolds, 1996, for a discussion). Therefore, stereotyping is simply categorization at a given level of abstraction, namely intergroup (Oakes, 1996). Stereotyping is the categorical perception of groups. Thus it is not argued that stereotyping involves top-down processing and individuation involves bottom-up processing. Rather, all impressions (all categorizations) reflect both top-down and bottom-up processes; that is all categorizations (including stereotypes) are

based upon an <u>interaction</u> between stimulus data and stored background knowledge, plus the motives, goals and needs of the perceiver.

Crucially, for self-categorization theory, categorization is "a dynamic, context-dependent process, determined by *comparative relations within a given context*" (Oakes, Haslam & Reynolds, 1999, p. 58, emphasis in original). Therefore, in contrast to social cognitive accounts, it always involves an entire stimulus array rather than a single stimulus (Oakes, 1996). Categories form to reflect and maximise meta-contrast; that is, the ratio of inter- to intragroup differences (see also Ford & Stangor, 1992). Therefore, categorization is always relative to a frame of reference or context. Categorizations form to reflect actual but <u>relative</u> similarities and differences between groups (but not objectively fixed ones as per the 'kernel of truth' idea). Thus, this perspective disagrees with accounts of stereotype formation such as illusory correlation. Indeed, as reviewed in Chapter 5, the illusory correlation effect has been reinterpreted by self-categorization theory researchers as an outcome of the categorization process and as reflecting a search for comparative differences between groups (e.g., Haslam, McGarty & P. Brown, 1996; McGarty & de la Haye, 1997; McGarty et al., 1993). The comparative nature of categorization means that categories are not conceptualised as stored cognitive representations. Thus, this perspective rejects the idea of stereotypes as fixed prototypes or schemas waiting to be activated (see also discursive approaches, e.g., Potter & Wetherell, 1987). Categories and their content are constructed 'on the spot' to reflect an interaction between theory and data. Considerable evidence supporting the context-dependence of category prototypicality comes from studies reviewed in Chapter 5 (e.g., Haslam, McGarty et al., 1995; Hogg, 1992; Hogg et al., 1993; Hogg et al., 1990; McGarty et al., 1992; Oakes et al., 1999; Oakes et al., 1998). Given that categories are constructed 'on the spot', in this account no distinction is made between the formation and the application of content; rather both are part of the same process.

Self-categorization theory, in common with the social cognitive perspective, considers fit to be crucial in linking theory and data. Again, however, it is understood quite

differently. As outlined previously, two aspects of fit are considered to be important, comparative fit and normative fit. Comparative fit concerns the comparative relations between stimuli as articulated by the principle of meta-contrast. Categories (and content) that form must fit with the comparative differences between groups. Therefore, the role of data is crucial in content formation; content reflects <u>real</u> comparative and contextual aspects of stimulus reality. However, the role of the perceiver is also important: because categorization and the search for similarity and difference is driven and guided by the perceiver's needs, motives and goals (perceiver readiness) and because the perception and interpretation of similarity and difference depends on the perceiver's background knowledge and theories. Normative fit links background knowledge and theories to immediate data. Comparative differences between groups must <u>make sense</u> in terms of our knowledge and theories for us to make use of them in stereotyping. However, this is not considered to be a matching procedure based on objective, fixed similarity as fit is conceived of in social cognitive accounts. Normative fit does not represent a fixed expectation or category to which stimulus data is matched, nor does it represent a fixed consistency or similarity between data and stored category representations. Importantly, it always acts in <u>interaction</u> with comparative fit such that relative differences between groups must fit with our knowledge and theories about those groups, and the perception of differences between groups, and their meaning, is determined and constrained by both the comparative context and the theories and knowledge applied.

Thus, this perspective, in line with recent work from cognitive psychology, rejects similarity based accounts of categorization such as those employed by the social cognitive perspective. Medin and colleagues (e.g., Murphy & Medin, 1985) argue that similarity is not a fixed feature of the stimulus. Alternatively they argue that perceptions of similarity are guided and constrained by both context (Medin et al., 1993) and by theories (Murphy & Medin, 1985). In self-categorization theory context and theories are broadly represented by comparative and normative fit. Thus the perception of stereotype content, of similarities within groups (and differences between groups) is driven by both

the comparative frame of reference (meta-contrast) and by the perceiver's expectations and theories. The perception of similarity and difference is context- and theory-dependent. This is consistent with Tajfel's work (see Chapter 2) which suggested that the dimensions selected for accentuation between groups are not merely those which correlate with a division into categories but which fit our background of knowledge about these categories.

Considerable evidence for the context-dependence of content and perceived similarity has been reviewed in Chapter 5. For example, it has been demonstrated that what is judged to be typical of a category (e.g., American; Haslam et al., 1992) and perceived similarity of others to self (Haslam & Turner, 1992, 1995) both vary with changes in frame of reference. Likewise, other studies have shown that the content associated with a group (Haslam et al., 1993) and the content of self-stereotypes (Onorato & Turner, 1996, 1997; Reynolds, 1996; Turner & Onorato, 1999) both vary with intra- versus intergroup contexts. Stereotype change studies (Oakes & Dempster, 1996; Oakes et al., 1999) also demonstrate that what we judge to be confirming or disconfirming of a category varies with comparative context. Thus, perceived consistency or typicality of content with a category varies with comparative context. There is also evidence that it is influenced by expectations, theories and knowledge. The role of expectations in the categorization process is highlighted by studies on the illusory correlation effect (e.g., Berndsen, 1997; Haslam et al., 1996; McGarty et al., 1993). Likewise, there is evidence that broad theories held by perceivers influence how they categorize and stereotype individuals (e.g., Chiu et al., 1997; Dweck et al., 1993; Dweck et al., 1995a, 1995b; Hoffman & Hurst, 1990; Levy & Dweck, 1998; Levy et al., 1998; Wittenbrink et al., 1997; Yzerbyt et al., 1997). In addition, we have reviewed studies from the cognitive literature that demonstrate how perceptions of similarity are influenced by theories and background knowledge (e.g., Medin & Wattenmaker, 1987; Rips & Handle, 1984, cited in Medin & Wattenmaker, 1987). Indeed, the evidence from the social cognition literature demonstrating that information consistent with categories and category labels takes priority when making group-based decisions can also be interpreted as supportive

of this position. Presumably, category labels tend to be associated with theories and knowledge in memory and data interpreted as consistent or normatively 'fitting' with these will be used in subsequent stereotyping. Wisniewski and Medin (1994) argue that meaningful category labels are used to 'activate' theories, that labels activate prior knowledge or expectations about categories that are subsequently used in judgements.

How are the 'theories' and background knowledge discussed above different and distinct from, for example, cognitive schemas as discussed by the social cognition perspective? Are they simply more abstract fixed categories? The answer is no for two reasons. Firstly, self-categorization theory would agree with Barsalou (1987) that knowledge in long term memory may be stable but rarely is the same information retrieved from this knowledge to represent a category. Therefore, we can consider long term memory as containing continuous knowledge used to construct concepts rather than being divided into invariant concepts (Barsalou, 1987). In a somewhat similar vein, Potter and Wetherell (1987) suggest that rather than fixed mental categories we have an "inconsistent cluster of expectations and associations" that we may draw upon in an "occasioned manner". Thus, while the store of knowledge, expectations and theories in memory is obviously fixed and stable at any one time, different 'parts' of that knowledge may be brought to bear upon any given categorical judgement. What determines which 'part' of knowledge and theories is employed? Barsalou argues that people construct concepts using knowledge from long-term memory in a process that is sensitive to context, recent experience and perceiver's goals (see also Medin and colleagues). Self-categorization theory would agree with this but also add the influence of the perceiver's salient social identity or self-categorization. Perceivers draw upon that theoretical knowledge which is associated with their current social grouping. This leads us to the second point of distinction between 'theories' and schemas; theories, while residing in individuals' heads, are socially shared and socially determined forms of knowledge. We elaborate on this point below in considering the second theme for discussion, the role of individual versus collective factors in content formation.

Individual versus collective factors

Social cognitive accounts have focused on individual cognitive processes in stereotyping and largely ignored social determinants (Haslam, 1997; Stangor & Schaller, 1996). This focus can be understood in light of their account of the stereotyping process. Stereotypes form based on individual direct observations of group members filtered by individual cognitive processes. Such processes are assumed to be universal. Haslam (1997) argues that from this perspective the collective nature of many stereotypes, the fact that they (and their content) are often widely shared within groups and within society, is explained by what he terms "common informational input". That is, we observe the same objective world, we share universal cognitive processes that act upon our observations and thus produce the same stereotypes. He suggests, however, that it is questionable whether two different people exposed to the same objective information will indeed process it in the same way. Alternatively, it is argued, consensus may have more to do with shared group memberships than common experience.

Indeed a number of the early approaches to stereotyping, such as those of Asch, Sherif and Allport, argued for the importance of group memberships in determining intergroup images based on shared ingroup values and norms. Likewise, Tajfel argued that common social affiliations are crucial in determining the characteristics chosen for accentuation between groups and that these would be determined by the group's interests, traditions, values and norms (e.g., Tajfel, 1981). A number of more recent approaches have also emphasised the group-based and collective nature of stereotypes and their content. For example, it has been argued that content derives from processes of social learning and conformity that are influence by language, culture and the media. Social representations theory argues that content derives from images and beliefs that are shared within groups and within societies. These representations can vary with group membership (e.g., Hewstone et al., 1982; Hraba et al., 1989) as can stereotype content. Importantly, how we interpret objective data is influenced by our social representations; thus data is only interpreted the same way within groups which share

representations (Haslam, 1997). Consensus within groups concerning the content of representations is argued to come about via everyday communication and interaction. However, these perspectives suffer from being rather vague in terms of how exactly beliefs come to be shared within groups or within society, and how these shared beliefs come to impact upon stereotyping and content.

Self-categorization theory also argues for the influence of the group and of social factors in stereotyping. Importantly, this approach considers individual cognitive factors <u>and</u> social, group-based factors in <u>interaction</u>. Content is not only social in the sense that it is derived from shared beliefs; in addition, social processes <u>influence</u> the cognitive processes that determine content:

> ... it is not simply that the *contents* of the mind are assimilated from society. It is also that psychological *functioning*, the way the mind works, presupposes an interaction with social context and social processes. (Turner & Oakes, 1997, p. 356, emphasis in original)

Cognitive processes also impact on social ones in that the principles of categorization (as outlined above) determine category salience and thus when we will see ourselves as ingroup members and others as outgroup members. The group's influence on cognition is explained in terms of social identities or self-categorizations. When we self-categorize, we see ourselves as identical to, and interchangeable with, other ingroup members, we expect to agree with those ingroup members and we are influenced by those ingroup members. Studies by Haslam and colleagues concerning stereotype consensus (e.g., Haslam, 1997; Haslam et al., 1996; Haslam et al., 1998, outlined in Chapter 5) have demonstrated how content is shaped by shared ingroup norms. Likewise, content is influenced by ingroup theories, knowledge and ideologies; it is these ingroup theories, knowledge and ideologies that are employed in the categorization process in the manner outlined above.

Other approaches have criticised self-categorization theory's account of both stereotype consensus and the impact of social factors upon content. These argue for the role of ideology and social structure in determining common beliefs and stereotypes (e.g., Augoustinos & Walker, 1995; Jost & Banaji, 1994; Stangor & Jost, 1997). Jost and

Banaji (1994) argue that social identity theory's (and self-categorization theory's) ability to explain the consensuality of stereotypes is limited. They propose that a complete theory needs to address the concept of ideological domination and evidence of false consciousness. They claim that an identity-based approach to stereotyping cannot explain why minority groups show outgroup favouritism and self-stereotype negatively in a fashion which is system- rather than group-serving. Thus, they argue that consensual content derives not only from beliefs and representations shared <u>within</u> groups but also those shared <u>across</u> groups, and that consensus derives from ideological domination and 'system-justifying' influences. Stangor and Jost (1997) propose that society and system beliefs are 'beyond' social groups and social identities; therefore to fully understand stereotyping and content we need to take into account three levels of analysis — the individual, the group <u>and</u> the system.

While this perspective emphasises that content is <u>shared</u> across group boundaries, discursive and rhetorical approaches focus on the <u>variability</u> of content both between and within groups. For example, Condor (1990) argues that social identity/self-categorization theory tends to <u>assume</u> consensus a priori without fully explaining it. She argues that social identity theory is not always clear about the boundaries of a group within which a stereotype is shared and does not adequately account for the considerable intragroup as well as intergroup variability in stereotype content. Likewise, Reicher et al. (1997) criticise both self-categorization and social representations theories for assuming that all members of a group share common understandings by virtue of being members of the same group. They argue that consensus is not given within groups but comes about via processes of argumentation to achieve strategic ends (Reicher et al., 1997). That is, group members debate the 'meaning' of their group before consensus is reached. Thus, content has a social dimension in that it is arrived at via rhetorical means within groups and in that it reflects group-based functions such as justification and social causality (Reicher et al., 1997; see Tajfel, 1981).

The accounts discussed above all agree on the influence of shared beliefs or social knowledge on stereotype content; however, they differ in terms of how this influence is

explained. Some of the differences appear to arise from different understandings concerning the nature of the group and of self-categorization. According to self-categorization theory, self-categorizations (like any other categorizations) are not fixed but can vary with context. Self-categorization, like other categorization, is a dynamic, fluid process that depends on comparative context and for which there is no basic level. Thus, while in some contexts we may define ourselves as, for example, 'women' there is also a sense in which we are members of a patriarchal society. Therefore, in some contexts we are influenced by the norms, theories, ideologies associated with belonging to the category 'woman' whereas in other contexts we are influenced by broader societal beliefs. Given that we can move between levels of self-categorization, it is possible for us to be seen to both accept the norms and theories of society in some circumstances and the contradictory ones of our subgroup in others. Therefore, when dominated groups appear to self-stereotype negatively they may actually be identifying with the dominant group. Conceptualising social identity/self-categorization as something that is flexible and that can change with context also helps us to understand why stereotype content can appear to vary <u>within</u> groups. Belonging to a group 'psychologically' is not an all or nothing thing and one may identify with a certain social category in one context and not in another. Stereotype content within groups may appear to vary because group boundaries and definitions themselves are varying, and because context is changing from intragroup (where we are inclined to differentiate ourselves from other ingroup members) to intergroup (where we emphasise ingroup similarities). Thus, the process of self-categorization can produce both homogenous and heterogenous views, both within and between groups and persons. Turner and Oakes (1997) argue that perception varies:

> ... not only with the perceiver but also with the salient self-category for a given perceiver — different people see the same thing differently, and the "same" perceiver sees the same thing differently as the varying self changes. (p. 367)

The beliefs and theories we hold are shared within groups and these will vary for individuals as their group memberships and identifications vary. Therefore, the <u>same</u> individual may express different beliefs and stereotypes in different contexts. For

example, Turner and Onorato (1999) discuss a study (see Onorato & Turner, 1996) which demonstrated that women who previously defined themselves as 'independent' came to see themselves as 'dependent' when their self-categorization as a 'woman' (compared to men) was made salient. Likewise, previously 'dependent' men came to define themselves as 'independent' when categorizing themselves as 'men' (compared to women). Turner and Onorato (1999) argue that:

> as a function of variation in the level of self-categorization from personal to social identity, apparently people's general ideas about "independence/dependence" can be used to generate self-concepts which are exactly opposite in content. (p. 36)

The above argument suggests that the background knowledge and theories held by any one individual may be quite broad and may contain inherent inconsistencies and contradictions (see also Billig et al., 1988). On any given occasion when we categorize or stereotype we draw upon only part of that knowledge and thus our stereotype will appear consistent with a given theory. However, this does not imply that we have an ongoing, unchanging set of beliefs or theories. The important point is that we conceive of background knowledge as being much more broad and fluid than any fixed set of categories or beliefs, and that salient background knowledge can vary with variations in salient self-categorization.

An account of the formation of stereotype content: Aims of thesis and statement of hypotheses

We believe that a full account of the formation of stereotype content needs to incorporate into its explanation both the role of theory and data, and of individual and collective factors. From the arguments presented above, we conclude that for our purposes an interactionist account such as self-categorization theory best lends itself to adequately predicting stereotype content. It appears to be the only account that sufficiently examines the <u>interaction</u> between both theory and data, and between cognitive and social processes, in social categorization. Likewise, it appears able to account for evidence found in support of alternative theories of stereotyping. Importantly, self-categorization theory explicitly acknowledges the importance of

content, not just in a descriptive capacity but in furthering our understanding of stereotyping processes.

This thesis aims to apply self-categorization theory to the problem of content formation and to provide an interactionist account of stereotype content formation. With respect to this issue, it needs to be made clear how our conceptualisation of content formation may differ from previous accounts. We are arguing that the formation of stereotype content is not distinct from the application of stereotype content. That is, we do not believe that content forms and is then stored waiting to be applied at a later date. Rather, we are suggesting that content forms to reflect the interaction between theory and data in a given context and at a given moment. In this sense, we are considering the content that forms to represent a group, and is used to describe a group, as the product of a specific interaction between stimulus data and background knowledge. Thus, the content that forms to represent a group on one occasion may be different from the content that forms to represent that group on a different occasion (and in a different context). Therefore, when we consider content formation we are not considering the formation of a permanent set of traits that come to be associated with a given social group (e.g., all men are stereotyped as aggressive and ambitious). Rather, we are looking at the content that is used on any occasion to describe a group, and at the factors that determine that content.

Theoretically and empirically the thesis has three main aims. Firstly we aim to elaborate on the interaction between aspects of the stimulus environment and the influence of broader social knowledge in determining the content associated with a social category in any given instance. For self-categorization theory the categorization process is crucial to understanding how content is produced. The outcome of categorization is the perception of similarities within, and differences between, groups. Given that content is simply those attributes or dimensions on which we judge group members to be alike, it follows that the outcome of categorization is stereotype content. By understanding the formation of categories we can understand the formation of category content as these are argued to be aspects of the same process. Therefore, in this thesis we account for the formation of

stereotype content by applying the 'accessibility x fit' hypothesis, which has previously been successfully applied to category salience (e.g., Oakes, 1987; Oakes & Turner, 1986; Oakes, Turner & Haslam, 1991), to the formation of stereotype content. The details of this hypothesis have been outlined in Chapter 5 and need not be repeated here. Thus, the first hypothesis of the thesis is:

> H1: Stereotype content will form to reflect an interaction between comparative and normative fit. More specifically, given appropriate 'readiness', stereotype content will form so as to reflect attributes that maximise relative differences between groups and minimise relative differences within groups in a direction that is meaningful in terms of our background knowledge and theories about these groups and the dimension of comparison.

When we talk about an interaction between comparative and normative fit in determining content we mean that influence of normative fit will depend on the level of comparative fit and vice versa. More specifically, given good normative fit stereotyping in terms of a relevant attribute should only occur if there is also high comparative fit. Likewise, given high comparative fit between a category and an attribute, stereotyping in terms of that attribute should only occur if there is also good normative fit.

A second aim of this thesis is to elaborate the concept of normative fit in terms of background knowledge and theories. It is argued that while the content of our stereotypes must be normatively fitting with our background knowledge, expectations and theories, it is not argued to be consistent or 'matched' with a fixed category; rather consistency is more properly with some relevant aspect of background knowledge and theories. Likewise the consistency (or perceived similarity, or fit) between attributes and categories is not considered to be fixed, but both context- and theory-dependent. Previous work has demonstrated that perceived consistency or prototypicality (and subsequent stereotype content) can vary with comparative context. We wish to examine whether it can also vary with accessible background theories and knowledge. Therefore a second hypothesis of the thesis is:

> H2: There is no fixed or absolute consistency between a given stimulus attribute and a given social category. The perceived consistency between an attribute and a category can vary with the background knowledge or theory that is brought to bear

upon that judgement. Likewise, the prototype of a category can vary with background knowledge and theories.

A corollary of the above hypothesis is that the content associated with any given social category can also vary with theories and knowledge.

Theoretically (and empirically) the above two hypotheses comprise the backbone of the analysis of content presented in this thesis. Our focus is on elaborating the role of the categorization process in content formation: to this end, crucial variables are _fit_ (both comparative and normative) which provides the link between data and background knowledge, and _theories_ which allow us to expand upon and understand more fully the normative influences in content formation. Thus, empirically, the major aims of the thesis (in testing the above hypotheses) are to demonstrate an interactive effect for comparative and normative fit in determining stereotype content, and to demonstrate the role of theories in guiding and constraining the perception of similarities and differences within and between social groups, and in determining the 'meaning' of these social groups.

Finally, as outlined above, we conceptualise the background knowledge and theories we bring to bear upon categorization as much broader than schemas or fixed cognitive categories. In different contexts we make use of theoretical knowledge that may be different or even contradictory. Theories should not be conceptualised as simply more abstract fixed categories or representations. Likewise, we do not consider theories to be types of cognitive biases which filter stimulus information, nor do we consider them to represent personality differences in ways of 'seeing' and interpreting the world. While theories reside in the heads on individuals, they are grounded in the social groups we belong to and identify with. Just as social identity or self-categorization can vary so will the knowledge or theories that we use in any given context. They will vary with salient self-categorizations and across contexts. Thus a third aim of the thesis is to investigate the variability in theoretical knowledge, to consider the influence of different types of knowledge on stereotype content, and to consider the links between theoretical knowledge and salient self-categorizations.

Empirical strategy

In the next five chapters a program of empirical research is discussed which attempted to address the above aims and to test the hypotheses. As outlined above the role of fit and theories are the key empirical issues to be investigated in the thesis. In simple terms, the strategy was to firstly consider the influence of comparative fit on stereotype content on its own. Next normative fit was introduced and the interaction between the two examined. Following this we wanted to further consider the relationship between normative fit and theories, and to look at the influence of different types of theories on stereotype content. The final part of the strategy was to link different theories to self-categorizations, and again examine the effects on stereotype content and perceived prototypicality.

As stated in the introductory chapter, our definition of stereotype content is concerned with both the <u>nature</u> in which we see a group of people as similar to each other (and different to other groups) and the <u>extent</u> to which we see them as similar within groups (and different between groups). Therefore, operationally in this thesis content was measured in terms of both the <u>degree</u> to which perceivers differentiated between groups on relevant dimensions, and in terms of the <u>types</u> of dimensions or attributes used to characterise a group.

In Chapters 7 and 8 we describe Experiments 1, 2, 3, and 4. These experiments sought to address the first aim of the thesis and to test the first hypothesis concerning the interaction between comparative and normative fit in determining stereotype content. Experiments 1 and 3 investigate the operation of comparative fit on its own. They look at how comparative differences between group are reflected in how those groups are stereotyped. It should be noted that in these experiments (as in Experiments 2, 4, 5 & 6) stereotyping is operationalised as the degree of differentiation and stereotype content as differentiation between groups on relevant dimensions. In Experiments 2 and 4, normative fit was introduced in the form of a correlation between group behaviours and the normative labels given to groups. Operationalising normative fit in this way is consistent with past experiments (e.g., Oakes et al., 1991) and also with Wisniewski and

Medin's (1994) idea that labels serve to activate theories. Indeed, one of the arguments we are making in this thesis is that category labels can serve to activate theories. However, it should be noted that while labels can activate theories, we conceptualise theories as being far broader and more complex than what is implied by a label.

Chapter 9 discusses Experiment 5 which also investigates the interaction between comparative and normative fit. In this experiment we also expand upon the concept of theories and their influence by examining theories 'generated' by subjects to explain differences between groups and the fit between category labels and group behaviours. This experiment addresses the first and second hypotheses of the thesis. Experiment 6 (Chapter 10) seeks to further investigate the influence of theories. In this experiment, comparative fit is held constant (differences between groups are constant across conditions) while different types of theories relevant to those differences are manipulated. This experiment is concerned with further addressing the second aim of the thesis.

Finally, in Experiment 7 (Chapter 11) we seek to link different theories with self-categorizations, and to consider how different theories can influence the 'meaning' of the same category. A slightly different empirical strategy is adopted in this final experiment. While the previous experiments measure the level of differentiation between groups in terms of relevant dimensions, in this experiment we look at the influence of different theories on the perceived prototypicality of a target person with a specific group and on the specific stereotype content generated. As this experiment seeks to look closely at the operation of the 'theory' variable, the comparative context in this experiment is implicit rather than explicit. This final experiment seeks address the second and third aims of the thesis.

Chapter 7

Experiments 1 and 2: Comparative Fit, Normative Fit and Stereotype Content (I)

As discussed in the previous chapter, one of the major aims of this thesis is to elaborate on the interaction between stimulus data and background knowledge in determining stereotype content. Specifically, we have proposed that stereotype content will form to reflect an <u>interaction</u> between comparative and normative fit. The first major hypothesis of the thesis (H1) predicts that:

> ...stereotype content will form so as to reflect attributes that maximize relative differences between groups and minimize relative differences within groups in a direction that is meaningful in terms of our background knowledge and theories about these groups and the dimension of comparison.

Turning to the first part of that prediction, we have argued that stereotype content will form to reflect comparative fit; that is, the ratio of between-group differences to within group differences (meta-contrast ratio). The greater the differences between groups relative to differences within groups on a given dimension, the more stereotype content should reflect differences on that dimension. In Experiment 1 we sought to test that prediction by systematically varying the degree of comparative fit between two groups and the behaviours describing members of those two groups. We have discussed previously that stereotyping and stereotype content formation involve not only comparative fit but also normative fit. In Experiment 2 we sought to manipulate normative fit in addition to varying comparative fit. Stereotype content should reflect differences in a direction that is meaningful in terms of our background knowledge and theories. Thus, it is not enough that comparative differences exist between groups; these differences must be consistent with our knowledge and expectations about these groups. Therefore, given that differences exist between groups (i.e., that there is high comparative fit) we would expect those differences that are <u>consistent</u> with our knowledge and theories about those groups to be used to a greater extent in stereotyping

those groups compared to those differences which are <u>not consistent</u> with our knowledge and theories about those groups.

The details of these first two experiments are outlined below.

Overview of Experiment 1

Experiment 1 sought to manipulate the degree of comparative fit between behaviours (reflecting attributes) and groups, and to measure the subsequent stereotyping of those groups in terms of those attributes. The experimental paradigm used in this study was largely based upon that used by Ford and Stangor (1992: Experiments 1 and 3 — reviewed in Chapter 3). Their experiments investigated the role of diagnosticity in stereotype formation and proposed that those attributes that maximally distinguish between groups will be more likely to become stereotypically associated with those groups compared to less diagnostic attributes. They suggest that perceivers are sensitive to both group means and to group variances in forming stereotypes and acknowledge the similarity between their proposal and the principle of meta-contrast proposing that the meta-contrast ratio can be "interpreted as an index of diagnosticity for categorization" (p. 357). Put another way, they propose that those attributes for which there is higher comparative fit (or a higher meta-contrast ratio) for groups will be more important in the groups' stereotypes than those for which there is lower comparative fit.

To briefly recap, in their first experiment, Ford and Stangor varied the extent of differences between two groups and kept the variability within groups constant in terms of two attribute dimensions (intelligence and friendliness). In Experiment 3, they varied the extent of variability in terms of the two dimensions and kept the extent of differences between the two groups constant. Their results showed that in Experiment 1 participants characterised the groups more in terms of the attribute dimension that differentiated more between the groups (was more diagnostic) compared to the less differentiating dimension. Likewise, in Experiment 3 they found that participants tended to characterise groups more in terms of those dimensions which indicated relatively lower within-group variability.

In their experiments stereotype content was measured in two ways: ratings of each group in terms of intelligence and friendliness using Likert-type scales (which they suggest is one of the traditional ways of measuring stereotypes), and using an index of associative strength between the attributes and the groups. This second measure was operationalised by asking participants to write down thoughts associated with each group and then calculating the number of thoughts connected with each attribute (intelligence or friendliness) for each group. Ford and Stangor conceptualise stereotypes in terms of those attributes that are relatively strongly associated with social groups or group labels in memory (see also Stangor & Lange, 1994). While a number of attributes may be descriptive of a group, "attributes that have strong associative links to a given group in memory will be more likely to be activated or 'come to mind' when one thinks about the group or encounters an individual who is a member of that group" (p. 356). While we employed a variation of Ford and Stangor's paradigm as a convenient way of manipulating the degree of comparative fit in this experiment, it should be pointed out that there are some theoretical differences between their position and our own. We agree that stereotype formation reflects attributes that maximally differentiate a group from other comparable groups; however, we do not conceive of stereotypes as mentally stored representations waiting to be activated (see Chapters 5 and 6).

The method and dependent measures employed in this experiment were very similar to those used by Ford and Stangor (1992, Experiments 1 and 3). Participants were presented with behaviours performed by members of two groups (Group A and Group B) and asked to form impressions of each group. Each group performed behaviours related to both intelligence and friendliness. Behaviours were selected (on the basis of pretesting) so that the groups differed from each other in terms of both attribute dimensions (i.e., Group A performed behaviours that were both more intelligent and less friendly than Group B). There was always comparative fit between the two dimensions (intelligence and friendliness) and the two groups. That is, both dimensions correlated with group membership and differentiated between the groups. What was varied was the <u>degree</u> of comparative fit between groups and dimensions, whether it

was high or low. In one condition there was higher comparative fit in terms of friendliness and lower comparative fit in terms of intelligence (<u>high comparative fit for friendliness</u> condition) whereas in the other condition there was higher comparative fit in terms of intelligence and lower comparative fit in terms of friendliness (<u>high comparative fit for intelligence</u> condition).

Comparative fit is tied to the meta-contrast ratio; that is, the ratio of average differences between groups to the average differences within groups. Comparative fit will be higher when meta-contrast is higher and lower when meta-contrast is lower. Thus, higher comparative fit should coincide with larger differences between groups and smaller variability within groups. In this experiment we sought to manipulate the level of comparative fit by varying the degree of differences between groups and the degree of variability within groups. In Ford and Stangor's first experiment they were concerned with varying mean differences between groups while keeping variability on each dimension within groups constant. In their third experiment they kept mean differences between groups on each dimension constant while varying the variability along each dimension within groups. In this experiment our concern was to vary comparative fit between groups such that it was higher for the friendliness dimension in one condition and higher for intelligence in the other. In an attempt to make this manipulation as strong as possible we varied both differences <u>between</u> groups and variability <u>within</u> groups. We chose behaviours such that average differences between groups were higher for the friendliness dimension (compared to the intelligence dimension) in the <u>high comparative fit for friendliness</u> condition and higher for intelligence (compared to friendliness) in the <u>high comparative fit for intelligence</u> condition. In terms of variability, we sought to ensure that variability <u>within</u> groups was smallest for friendliness for the <u>high comparative fit for friendliness</u> condition, and smallest for intelligence for the <u>high comparative fit for intelligence</u> condition. It should be noted that while the <u>degree</u> of comparative fit for each dimension was varied across conditions, for both dimensions (friendliness and intelligence) there was always

relatively high comparative fit in all conditions. Put another way, for both dimensions the differences between groups was greater than the variability within groups.

While the aim of this experiment was to examine the effect of comparative fit on stereotype content (before introducing the normative fit variable in the next experiment), we have discussed previously that comparative fit and normative fit are inseparable and that they are always working together (along with perceiver readiness). Thus, while there was no explicit normative fit in this study it is likely that there was implicit normative fit engendered by the type of experimental task and by the types of behaviours describing the two groups. Firstly, given that the experimental task involved forming impressions of two groups participants may have expected to find differences between the two groups and therefore may have been looking for meaningful differences[7]. Secondly, the type of attributes describing the groups (friendliness and intelligence) plus their combination (e.g., unfriendly and intelligent, friendly and unintelligent) may have acted to create certain expectations about the two groups. Thus, while the experiment sought to establish clear differences between the two groups in terms of intelligence and friendliness, it is possible that participants might form their own expectations concerning the differences between groups and that these might influence their interpretation of presented differences.

Predictions

It was predicted that participants would stereotype groups more in terms of those traits that were highly comparatively fitting compared to traits that were less comparatively fitting. Therefore:

> 1. For the high comparative fit for friendliness condition, it was predicted that participants would differentiate between groups A and B more in terms of the friendliness dimension compared to the intelligence dimension. Likewise, for the high comparative fit for intelligence condition, it was predicted that participants would differentiate between groups A and B more in terms of the intelligence dimension than the friendliness dimension.

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[7] For example, some interpretations of the illusory correlation effect, as discussed in Chapter 5, suggest that when participants are presented with two groups they expect to find differences between those groups and so look for a meaningful basis for differentiation (Berndsen, 1997; Haslam et al., 1996; McGarty et al., 1993).

In addition, it was predicted that there would be differences in differentiation in terms of friendliness and intelligence <u>across</u> the comparative variable, such that:

> 2. Participants would differentiate <u>more</u> in terms of the friendliness dimension in the <u>high comparative fit for friendliness</u> condition (compared to <u>the high comparative fit for intelligence</u> condition) and <u>more</u> in terms of the intelligence dimension in the <u>high comparative fit for intelligence</u> condition (compared to the <u>high comparative fit for friendliness</u> condition).

Method

Participants and Design

Participants were 64 first year psychology students at the Australian National University in Canberra. All students participated in the study on a voluntary basis, as part of a normal laboratory class. Approximately 58% of the sample were female and the average age was 22 years. Participants were randomly assigned to experimental conditions. One independent variable was manipulated — degree of comparative fit — which had two levels, high for friendliness versus high for intelligence.

Stimulus materials

Behavioural descriptions, similar to those used by Ford and Stangor (1992; see also Hastie & Kumar, 1979; Srull, Lichtenstein & Rothbart, 1985; Stangor & Duan, 1991) were prepared. Each description referred to a member of one of the target groups performing a behaviour that was related to either intelligence, friendliness or was neutral. For example, a description of a behaviour relating to intelligence (negative) performed by a member of Group B was: "A member of Group B made the same mistake three times". A description of a behaviour relating to friendliness (positive) performed by a member of Group B was: "A member of Group B belongs to a number of social clubs". A description of a neutral behaviour performed by a member of Group A was : "A member of Group A eats three meals a day".

Each target group (Group A and Group B) was described by 18 different behaviours: 6 related to intelligence, 6 related to friendliness and 6 that were not related to either

intelligence or friendliness (neutral)[8]. In all conditions, each group was described favourably in terms of one dimension and negatively in terms of the other. Group A was always described (on average) by behaviours that were more intelligent and less friendly than Group B. The reverse pattern held for descriptions of Group B. The statements were selected on the basis of pretest ratings of behaviours in terms of intelligence and friendliness given by 14 independent participants. These participants rated 64 behavioural statements in terms of both intelligence and friendliness on 9-point scales ranging from 1 (extremely unintelligent/extremely unfriendly) to 9 (extremely intelligent/extremely friendly). These participants did not take part in the subsequent experiment.

In the <u>high comparative fit for friendliness</u> condition, the behaviours were selected to create a larger mean difference between the two group in terms of friendliness ($\underline{M}$=3.50 for Group A and $\underline{M}$=7.52 for Group B), $\underline{t}$(13)=13.6, $\underline{p}$<.001, and a smaller mean difference in terms of intelligence ($\underline{M}$=6.74 for Group A and $\underline{M}$=4.42 for Group B), $\underline{t}$(13)=7.76, $\underline{p}$<.001. The difference between the groups was significantly greater for the friendliness than the intelligence attribute dimension, $\underline{t}$(13)=7.04, $\underline{p}$<.001. In the <u>high comparative fit for intelligence</u> condition, the behaviours were selected to create a larger mean difference between the groups in terms of intelligence ($\underline{M}$=7.46 for Group A and $\underline{M}$=3.71 for Group B), $\underline{t}$(13)=9.61, $\underline{p}$<.001, and a smaller mean difference in terms of friendliness ($\underline{M}$=4.75 for Group A and $\underline{M}$=6.71 for Group B), $\underline{t}$(13)=7.22, $\underline{p}$<.001. The difference between the groups was significantly greater for the intelligence than the friendliness attribute dimension, $\underline{t}$(13)=5.36, $\underline{p}$<.001. The mean pretest ratings (in terms of intelligence and friendliness) of stimulus statements used in the experiment, along with the mean differences between groups on each dimension, are summarised in Table 7.1 below.

In terms of variability, we sought to ensure that variability <u>within</u> groups was smallest for friendliness for the <u>high comparative fit for friendliness</u> condition, and smallest for intelligence for the <u>high comparative fit for intelligence</u> condition. Homogeneity of

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[8] Details of the statements used to describe each group appear in Appendix A.

variance tests showed that in the high comparative fit for friendliness condition variability associated with the friendliness dimension was significantly smaller than that associated with the intelligence dimension both within Group A (SD's=.57 vs. 1.52), Cochran's C(5,2)=.88, p<.05, and within Group B (SD's=.22 vs. 1.07) Cochran's C(5,2)=.96, p<.05. In addition, variability in friendliness was not significantly different across groups and variability in intelligence was not significantly different across groups. Likewise, in the high comparative fit for intelligence condition homogeneity of variance tests showed that variability associated with the intelligence dimension was significantly smaller than that associated with the friendliness dimension within both Group A (SD's=.43 vs. 1.40) Cochran's C(5,2)=.91, p<.05, and within Group B (SD's=.45 vs. 1.62), Cochran's C(5,2)=.93, p<.05. In addition, variability in friendliness was not significantly different across groups and variability in intelligence was not significantly different across groups.

Table 7.1

Mean pretest ratings of friendliness and intelligence stimulus statements for Group A and Group B, and mean differences between groups on each dimension: Experiment 1

Comparative fit:	High for Friendliness			High for Intelligence		
Group:	A	B	Diff	A	B	Diff
Friendliness	3.50	7.52	4.02	4.75	6.71	1.96
Intelligence	6.74	4.42	2.32	7.46	3.71	3.75

Note: Diff = difference between groups A and B.

Thus, in the high comparative fit for friendliness condition, there was a larger mean difference between groups and a smaller variability within groups on the friendliness dimension compared to the intelligence dimension. Likewise, in the high comparative fit for intelligence condition there was a larger mean difference between groups and a smaller variability within groups on the intelligence dimension compared to the friendliness dimension. Note, however, that while comparative fit was lower for

intelligence in the high comparative fit for friendliness condition and lower for friendliness in the high comparative fit for intelligence condition, there was still comparative fit for both these dimensions in both these conditions. Differences were a matter of degree rather than a case of high fit versus no fit.

Procedure

All participants were shown instructions concerning the experiment which were also read aloud by the experimenter. In all conditions the instructions read:

> This study concerns impression formation based upon limited information. I am going to give you some information about people from different groups and later ask you to make some judgements about them. In a moment I will show you some statements describing behaviours performed by different members of two groups. For convenience these groups have been labelled Group A and Group B.

All participants were instructed to read the statements carefully and to try to form an impression of what each group was like. These instructions were very similar to those used by Ford and Stangor (1992). The behavioural statements were then presented to participants on an overhead projector, one at a time, at a rate of approximately 5 seconds per statement. The order of presentation of statements was random.

After viewing the behaviours, participants were asked to complete a questionnaire concerning the impressions they had just formed of the two groups. All participants completed the dependent measures and recorded their gender and age. After collecting questionnaires, all participants were debriefed as to the purpose of the study, thanked and dismissed.

Dependent variables

Two dependent variables were employed which were identical to those used by Ford and Stangor (1992). The first dependent variable was a trait rating measure. All participants were asked to rate both groups on intelligence and friendliness using 9-point scales (ranging from 1 = extremely unintelligent/extremely unfriendly, to 9 = extremely intelligent/extremely friendly). This measure allowed us to test our predictions concerning differentiation between groups by looking at differences in

ratings of the two groups. As discussed previously, stereotype content can conceptualised as the relative differentiation between groups in terms of relevant dimensions. The second measure was a thought listing measure. Participants were asked to write down four thoughts concerning what they thought Group A was like and four thoughts concerning what they thought Group B was like, based on the impressions they had just formed. This measure was designed by Ford and Stangor to provide an index of the "associative strength between the groups and the descriptive attributes" (Ford & Stangor, 1992, p. 359).

In addition, as in Ford and Stangor (1992), a free recall measure was employed. Participants were asked to recall as many as possible of the behavioural statements they had read for both Group A and Group B. This measure was designed to test whether either type of behaviour (intelligence or friendliness) was more memorable when it was more extreme (that is, when there was higher comparative fit for that dimension).

Results

Overview of analyses

The main predictions of the experiment were tested using planned contrasts (based on a priori predictions). We have also reported the overall ANOVA for completeness. As contrasts were planned and directional, all t-values reported below are one-tailed unless otherwise specified.

Trait ratings

Mean ratings for intelligence and friendliness for Group A and Group B across both levels of the comparative fit variable were calculated. We also calculated the differences between groups A and B in terms of each dimension for each condition. This was done by subtracting friendliness ratings for Group A from friendliness ratings for Group B (given that Group B members were more friendly than Group A members) and by subtracting intelligence ratings for Group B from intelligence ratings for Group A (given that Group A members were more intelligent than Group B members). These means (and associated standard deviations) are presented in Table 7.2 below:

Table 7.2

Mean ratings of perceived friendliness and intelligence for Group A and Group B, and mean difference scores: Experiment 1

Comparative fit:	High for Friendliness			High for Intelligence		
N:	30			34		
Group:	A	B	Diff	A	B	Diff
Friendliness ratings	3.93	7.37	3.44	4.68	6.65	1.97
	(1.93)	(1.56)	(3.17)	(1.39)	(1.20)	(2.24)
Intelligence ratings	6.43	5.13	1.30	6.97	4.85	2.12
	(1.85)	(1.55)	(2.78)	(1.03)	(1.31)	(1.92)

Note: Scores for Group A and Group B can range from 1 to 9; diff=mean difference scores, these can range from -8 to +8; a higher score indicates more stereotyping, a negative score would indicate reverse stereotyping, a zero score would indicate no stereotyping; standard deviations in brackets.

To check whether the stimulus materials were successful in creating perceived differences between groups in terms of intelligence and friendliness, planned contrasts were carried out to check if Group A was perceived to be more intelligent and less friendly than Group B. As expected, in the high comparative fit for friendliness condition, Group A (M=6.43) was judged to be significantly more intelligent than Group B (M=5.13), $t(29)$=2.56, p<.01, and Group B (M=7.37) was judged to be significantly more friendly than Group A (M=3.93), $t(29)$=5.93, p<.001. In the high comparative fit for intelligence condition, Group A (M=6.97) was judged to be significantly more intelligent than Group B (M=4.85), $t(33)$=6.43, p<.001, and Group B (M=6.65) was judged to be significantly more friendly than Group A (M=4.68), $t(33)$=5.14, p<.001. Therefore it appears that the stimulus materials were successful in creating differences between the groups on both dimensions in both conditions.

We also expected that the differences perceived between groups A and B in terms of intelligence and friendliness may differ somehow from the stimulus input. In one sense, it is difficult to compare the mean ratings of groups in terms of intelligence and friendliness between pre- and posttest. At pretest (see Table 7.1), means were based on individual statements which were rated individually in terms of friendliness and

intelligence (in no explicit context), whereas at posttest (see Table 7.2) participants rated groups (based on descriptive statements about them) in an explicit comparative context. One might expect an accentuation of differences between groups at posttest because statements (and corresponding attributes) are correlated with group memberships (Tajfel & Wilkes, 1963) However, there is no evidence that participants accentuated differences between groups on either dimension. Indeed, they appear to have moderated differences between groups compared to the stimulus input. One striking difference between pre- and posttest is the rating of Group B in·terms of intelligence in the <u>high comparative fit for intelligence</u> condition which appears to be much higher at post- compared to pretest (i.e., they are seen as less unintelligent).

Predictions 1 and 2

Predictions 1 and 2 concerned the amount of differentiation between groups on relevant dimensions. Therefore these were tested using the differences scores calculated above (see Table 7.2). The mean differences scores were analysed in a 2 (comparative fit: high for friendliness/high for intelligence) X 2 (dimension: friendliness/intelligence) ANOVA with a repeated measure on the last factor. This revealed a significant main effect for dimension, $F(1,62)=12.75$, $p<.001$, which was qualified by a significant dimension by comparative fit interaction, $F(1,62)=16.81$, $p<.001$. The nature of this interaction is represented in Figure 7.1 below.

To test predictions 1 and 2, four planned pairwise contrasts were carried out applying Sidak's multiplicative inequality to control for the experiment-wise error rate[9]. Contrasts revealed that when there was <u>high comparative fit for friendliness</u>, participants differentiated between Group A and B <u>more</u> in terms of friendliness ($M=3.43$) than intelligence ($M=1.30$), $t(62)=5.19$, $p<.05$. When there was <u>high comparative fit for intelligence</u> participants differentiated between Group A and B slightly <u>more</u> in terms of intelligence ($M=2.12$) than friendliness ($M=1.97$), although this difference failed to reach significance, $t(62)=.58$, $p>.05$. Looking at comparisons across dimensions,

[9]With four contrasts, 62 degrees of freedom and $\alpha = .05$ (one-tailed) the critical t-value based on Sidak's multiplicative inequality is 2.28 (Rohlf & Sokal, 1981).

participants differentiated in terms of friendliness significantly more in the high comparative fit for friendliness versus high comparative fit for intelligence condition, $t(62)=3.74$, $p<.05$. Likewise, participants differentiated in terms of intelligence significantly more in the high comparative fit for intelligence versus high comparative fit for friendliness condition, $t(62)=2.28$, $p<.05$.
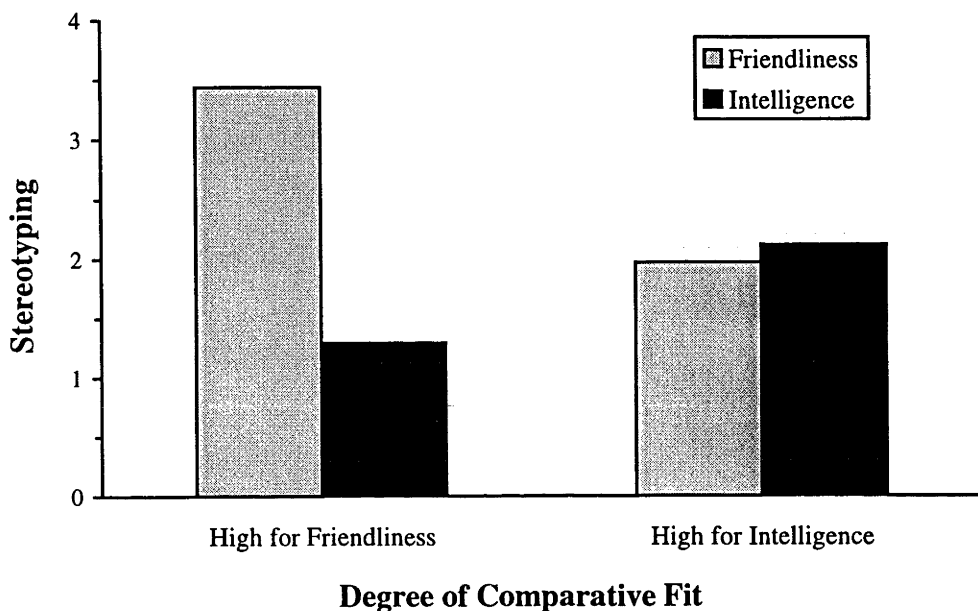
Figure 7.1 Interaction between comparative fit and dimension on mean difference scores: Experiment 1

Thoughts generated

The thoughts generated by participants were coded by the experimenter and an independent judge (a postgraduate student) who were both blind to condition. Each thought was coded as being either associated with intelligence or friendliness, or irrelevant to either dimension, and for being either positively or negatively valenced, or neutral. Agreement between judges was 87% and disagreements were decided by the experimenter.

Initially, in line with the analysis performed by Ford and Stangor (1992), total thought listings for Group A were combined with total thought listings for Group B and the valence of the thoughts was ignored. The mean number of thoughts relating to

intelligence or friendliness generated across the two levels of comparative fit are presented in Table 7.3 below:

Table 7.3

<u>**Mean number of thoughts generated relating to friendliness and intelligence:**</u>
<u>**Experiment 1**</u>

Comparative fit:	High for Friendliness	High for Intelligence
N:	30	34
Friendliness thoughts	2.87 (1.14)	2.47 (1.08)
Intelligence thoughts	1.53 (1.20)	1.91 (1.00)

<u>Note</u>: Scores can range from 0 to 8; standard deviations in brackets.

A 2 (comparative fit: high for friendliness/high for intelligence) X 2 (dimension: friendliness/intelligence) ANOVA with a repeated measure on the last factor was carried out on the mean thought listings scores. This yielded a main effect for dimension, $F(1,62)=21.7$, $p<.001$, such that overall more friendliness-related thoughts were generated than intelligence-related thoughts. Planned pairwise contrasts (applying Sidak's multiplicative inequality) were again carried out, identical to those employed for the mean difference scores above. These revealed that overall participants generated more thoughts related to the friendliness dimension than the intelligence dimension but that this difference was only significant in the <u>high comparative fit for friendliness</u> condition, $t(62)=4.53$, $p<.05$. No other contrasts reached significance.

We were interested in whether participants formed different overall (positive or negative) impressions of the two groups across the different conditions. We did a further analysis that took into account the valence of the generated thoughts. We calculated the total number of positive thoughts (related to either intelligence or friendliness) generated about both Group A and Group B, and the total number of negative thoughts generated about Group A and Group B. An overall relative positivity score for each group was calculated by subtracting total negative thoughts from total positive thoughts.

Therefore, a score greater than zero means the group was characterised by more positive than negative thoughts, and a score less than zero means the group was characterised by more negative than positive thoughts. The means for this new variable across comparative fit appear in Table 7.4 below:

Table 7.4

Relative positivity of thoughts generated about Group A and Group B:
Experiment 1

Comparative fit:	High for Friendliness	High for Intelligence
N:	30	34
Group A	-.43 (1.22)	.12 (.91)
Group B	.90 (1.03)	.38 (1.35)

Note: Scores can range from -4 to +4; standard deviations in brackets.

A 2 (comparative fit: high for friendliness/high for intelligence) X 2 (group: A/B) ANOVA with a repeated measure on the last factor was performed on these means. It revealed a significant main effect for group, $F(1,62)=12.41$, $p<.001$, which was qualified by a significant comparative fit by group interaction, $F(1,62)=5.55$, $p<.03$. Overall, Group A were judged more negatively than Group B. However, pairwise contrasts revealed that this difference was only significant in the high comparative fit for friendliness condition, $t(62)= 3.96$, $p<.05$ (two-tailed)[10].

Recalled behaviours

A final analysis looked at the number of recalled behaviours. The mean total number of recalled behaviours related to friendliness and to intelligence in each condition were calculated. Means appear in Table 7.5 below:

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[10]Note that a two-tailed t-test was employed here as we had no a priori predictions concerning the direction of differences. With four contrasts, 62 degrees of freedom and $\alpha = .05$ (two-tailed) the critical t-value based on Sidak's multiplicative inequality is 2.57 (Rohlf & Sokal, 1981).

Table 7.5

Mean number of recalled behaviours relating to friendliness and intelligence:
Experiment 1

Comparative fit:	High for Friendliness	High for Intelligence
N:	30	34
Friendliness behaviours	3.50 (1.72)	4.94 (2.00)
Intelligence behaviours	3.70 (1.75)	3.79 (1.67)

Note: Standard deviations in brackets.

A 2 (comparative fit: high for friendliness/high for intelligence) X 2 (dimension: friendliness/intelligence) ANOVA with a repeated measure on the last factor revealed a main effect for comparative fit, $F(1,62)=4.32$, $p<.05$, qualified by a comparative fit by dimension interaction, $F(1,62)=7.03$, $p<.01$. Participants recalled more behaviours relating to friendliness than intelligence in the high comparative fit for intelligence condition and slightly more behaviours relating to intelligence than friendliness in the high comparative fit for friendliness condition. Therefore, it does not appear that there was superior memorability for the more extreme behaviour in each condition; indeed the opposite appears to have happened, with superior recall for the less extreme behaviour in each condition.

Discussion

Some support was found for our predictions. In terms of prediction 1, we found differences in differentiation between groups in terms of friendliness and intelligence across comparative fit in the predicted directions. That is, when comparative fit was higher for friendliness than intelligence, participants differentiated between groups relatively more in terms of friendliness than intelligence. However, while participants differentiated between groups slightly more in terms of intelligence than friendliness when comparative fit was higher for intelligence than friendliness, this difference did not reach significance. In terms of prediction 2 we found, comparing across levels of comparative fit, that participants differentiated significantly more in terms of

friendliness when comparative fit was higher for this dimension (<u>high comparative fit for friendliness</u> condition) compared to when it was lower (<u>high comparative fit for intelligence</u> condition). Likewise, participants differentiated significantly <u>more</u> in terms of intelligence in the condition with higher comparative fit for intelligence compared to the condition with lower comparative fit. Therefore, strong support was found for prediction 2. However, prediction 1 was borne out in one condition (<u>high comparative fit for friendliness</u>) but not the other (<u>high comparative fit for intelligence</u>).

Similar results were found for the thought listing measures. A significant difference was found in the total number of friendly- versus intelligence-related thoughts generated in the <u>high comparative fit for friendliness</u> condition, where more friendliness-related thoughts were generated compared to intelligence-related thoughts. However, there were also more friendliness-related (vs. intelligence-related) thoughts generated in the <u>high comparative fit for intelligence</u> condition (although this difference was not significant). Therefore, in general it appeared that regardless of degree of comparative fit, participants generated more thoughts related to the friendliness dimension than the intelligence dimension. Interestingly, we also found that participants tended to generate more positive thoughts relating to Group B versus Group A in the high comparative fit for friendliness condition. There was no significant difference in the relative amount of positive thoughts generated about each group in the high comparative fit for intelligence condition. It make sense that Group B were seen more positively than Group A in the high comparative for friendliness condition as in this condition Group A are characterised as extremely unfriendly (and only moderately intelligent) whereas Group B are extremely friendly (and only moderately unintelligent). However, we might expect this pattern to be reversed in the high comparative fit for intelligence condition where Group A are extremely intelligent (and only moderately unfriendly) and Group B are extremely unintelligent (and only moderately friendly). In this condition Group B was actually characterised more positively than Group A (although not significantly so). Therefore, it appears that friendliness may have been a more important dimension than intelligence in shaping impressions of groups.

In terms of the recall of behavioural statements, participants tended to recall more of the less extreme behaviours in each condition. That is, they recalled more of the behaviours related to the dimension with lower comparative fit. Therefore, there was no evidence that any perception of differences between groups was related to superior memorability of more extreme behaviours. Indeed, less extreme behaviours appeared to be more memorable. This was especially true for the friendliness-related behaviours in the high comparative fit for intelligence condition.

Thus, in the high comparative fit for friendliness condition participants stereotyped groups more in terms of the dimension for which there was higher comparative fit. This was found both in terms of differentiation between groups and in terms of thoughts generated about the groups. However, differences across dimension were not found in the high comparative fit for intelligence condition. In general, it appears that participants made less extreme judgements in terms of the intelligence dimension compared to the friendliness dimension in both conditions, tending to be less inclined to judge Group B to be extremely unintelligent. The consequence of this was to make differences across dimension greater where there was high fit for friendliness but less where there was high fit for intelligence.

There are a couple of possible explanations for the lack of extreme judgements on the intelligence dimension. Firstly, it is possible that for first year university students there may be norms against judging persons to be highly unintelligent. Participants may have felt they were not justified in making assessments about others' intelligence from the information given. This is consistent with the social judgeability perspective of Leyens et al. (1994 — see Chapter 5) which argues that people have theories about judgements and respect 'cultural rules' when forming impressions. For first year university students there may be 'cultural rules' concerning making judgements about intelligence.

Secondly, it is possible that the combination of the traits friendliness and intelligence may have created certain expectations about the groups, and that each dimension may have to some extent influenced the interpretation of statements related to the other

dimension. The lack of accentuation of group differences, compared to the stimulus input, for either dimension supports this idea. While there was no 'explicit' normative fit in this study, there may have been 'implicit' normative fit. For example, Group A were both unfriendly and intelligent and participants may have had expectations about what unfriendly/intelligent people are like (and likewise, about the friendly/unintelligent people in Group B). As participants were exposed to behaviours relating to each group they may have begun to form hypotheses about what both those groups were like and subsequently interpreted further behavioural statements in terms of their expectations. This is consistent with work by Berndsen, Spears, McGarty and van der Pligt (1998). Their research looked at the illusory correlation paradigm, where participants are presented with positive and negative statements about Group A and Group B. They found that participants developed a hypothesis that Group A is better that Group B, and subsequently reinterpreted negative Group A behaviours as more positive and positive Group B behaviours as more negative.

It is possible that in the current study, participants may have developed hypotheses about the nature of the two groups and reinterpreted subsequent behaviours to fit their hypotheses. The dimension friendliness may have shaped overall impressions with the unfriendly/intelligent group being seen as generally negative (and therefore their intelligence is downplayed) and the friendly/unintelligent group being seen as generally positive (and therefore their 'unintelligence' is downplayed). Therefore, friendliness may be the more dominant dimension in forming impressions (possibly because being friendly is more voluntary whereas intelligence is more innate) and may 'shape' interpretations of intelligence. The results on the thought listing measure are consistent with this possibility with participants generating more friendliness-related thoughts regardless of condition, and generating more positive thoughts about Group B the friendly/unintelligent group. Likewise, in terms of the recalled behaviours, in the high comparative fit for intelligence condition, participants recalled more friendliness-related compared to intelligence-related behaviours. This supports the idea that in this condition friendliness was the more important dimension in forming impression of the two

groups. These possibilities are explored further in subsequent experiments (see next chapter).

Overview of Experiment 2

In this experiment we sought to explicitly manipulate the levels of both comparative and normative fit. While a great number of the studies discussed in Chapter 5 deal with the importance of comparative and normative fit in stereotyping very few have attempted to systematically and concurrently vary the level or degree of both variables. One notable exception is a study by Oakes, Turner and Haslam (1991 — Experiment 2, see Chapter 5). They independently varied both comparative and normative fit which were manipulated in terms the consistency and direction of attitudes held by groups of arts and science students. Results of their study indicated that group salience was highest when there was both high comparative fit <u>and</u> good normative fit. In this study we aimed to vary the degree of both comparative and normative fit between two groups and the behaviours describing those groups, and to examine the effects on stereotype content.

Thus, while Experiment 1 was largely a replication of Ford and Stangor's study, Experiment 2 sought to extend that experiment by introducing a normative fit variable. Stereotyping should occur in terms of dimensions that best differentiate between groups in a <u>normative direction</u>; that is, in a direction that is consistent with our expectations, and background knowledge and theories. Oakes et al. (1991) argue that category salience depends upon both comparative <u>and</u> normative fit: "A social categorization not only becomes salient to the degree that it best fits individuals' behaviour, but *such a fit implies a meaningful explanation of their actions*" (Oakes et al., 1991, p.127 emphasis in original). Likewise, stereotype content should not only reflect differences between groups that provide the highest comparative fit, but it should reflect differences that are meaningful or provide normative explanations for what is observed.

In Experiment 1 we found some evidence that participants stereotyped groups <u>more</u> in terms of those attributes that best differentiate between groups. That is, participants

stereotyped <u>more</u> in terms of traits or dimensions for which comparative fit was high compared to those for which it was lower. In this experiment we sought to demonstrate that stereotyping occurs when differences are maximised between groups in a direction that is consistent with our normative expectations and theories. Therefore, in this experiment we wanted to introduce normative expectations about the types of, and direction of, differences between groups. That is, we wanted to introduce a normative fit variable. In this experiment normative fit was operationalised in terms of the <u>direction</u> of differences between groups. Differences between groups were either consistent with normative labels given to those groups or inconsistent. This is in line with the method used by Oakes et al. (1991). However, it should be noted that we are not suggesting that category labels cue fixed stereotypes that are stored in memory. Rather, in line with Wisniewski and Medin (1994) we argue that category labels may serve to activate broader theories and background knowledge.

Recall that the groups in Experiment 1 differed in terms of intelligence and friendliness such that one group was more intelligent and less friendly than the other group. The two group labels chosen to be used in this experiment were 'tour guides' and 'chess players'. Most people would expect chess players to be relatively more intelligent than tour guides and relatively less friendly, and vice versa. A pretest using an independent sample of 19 participants, who rated the intelligence and friendliness of tour guides and chess players on 9-point scales, confirmed that in general tour guides were perceived to be significantly more friendly than chess players ($\underline{M}$'s=7.84, 5.10), $\underline{t}$(18)=6.78, $\underline{p}$<.001, and chess players were perceived to be significantly more intelligent than tour guides ($\underline{M}$'s=7.42, 5.89), $\underline{t}$(18)=3.14, $\underline{p}$<.01.

The design and procedure of this experiment were identical to Experiment 1 except that a label-type independent variable was introduced. Thus degree of comparative fit was manipulated such that it was either higher for friendliness or higher for intelligence. Again it should be noted that there was always comparative fit for both friendliness and intelligence in all conditions — it just differed in degree. In addition, participants were either given group labels that were consistent with intergroup differences or that

were inconsistent. Thus, they were either told that Group A were chess players and Group B were tour guides, or vice versa.

Predictions

We expected the highest level of stereotyping in terms of a dimension to occur when comparative fit and normative fit were operating together, that is, when there was comparative fit for a dimension and normative fit was good (i.e., group labels consistent with intergroup differences). We expected less stereotyping when there was comparative fit but no normative fit (i.e., group labels were inconsistent). Theoretically, we would expect to find zero stereotyping in this condition because differences between groups should only produce stereotyping if they are normative or meaningful ones. However, in practice we might expect to find some differentiation between groups in this condition given there are relatively high levels of comparative fit in all conditions and that participants may be motivated to explain the differences between groups. Importantly, we expected relatively less stereotyping in the inconsistent labels condition compared to the condition with good normative fit.

Thus we predicted a main effect for label-type (or normative fit). We also predicted an interaction between comparative and normative fit such that differences in stereotyping should be found across the degree of comparative fit, but only when normative fit was good (i.e., labels were consistent) and not when there was no normative fit (labels were inconsistent). Given good normative fit (consistent labels) we would expect a higher degree of comparative fit to result in more stereotyping. Given no normative fit we were expecting little stereotyping and therefore differences in the degree of comparative fit should have no effect on level of stereotyping (i.e., comparative differences between groups should only result in stereotyping when they are also normative).

Specifically, we predicted:

   1. For both dimensions more stereotyping should occur when group labels are consistent versus inconsistent with intergroup differences.

2. Given consistent labels, there should be more stereotyping in terms of a dimension when the degree of comparative fit for that dimension is high versus low.

3. Given inconsistent labels, there should be no differences in the level of stereotyping across the degree of comparative fit for either dimension.

Method

Participants and design

Participants were 92 first year psychology students at the Australian National University in Canberra. All students participated in the study on a voluntary basis, as part of a laboratory class. Approximately 70% of the sample were female and the average age was 19.6 years. Participants were randomly assigned to experimental conditions. This experiment was performed in laboratory classes in the same week as Experiment 1. Two independent variables were manipulated in a 2 (degree of comparative fit: high for friendliness/high for intelligence) x 2 (label-type: consistent/inconsistent) between-subjects design.

Stimulus materials

The same behavioural statements used in Experiment 1 were employed in this experiment.

Procedure

All participants were shown instructions concerning the experiment which were also read aloud by the experimenter. In all conditions the instructions were:

> This study concerns impression formation based upon limited information. I am going to give you some information about people from different groups and later ask you to make some judgements about them. In a moment I will show you some statements describing behaviours performed by different members of two groups. For convenience these groups have been labelled Group A and Group B.

These instructions were identical to those in Experiment 1. In addition, participants in the consistent labels conditions were given these instructions:

> However, to help you in making judgements about the groups I want you to imagine that Group A are CHESS PLAYERS and that Group B are TOUR GUIDES.

while the additional instructions for participants in the inconsistent labels condition read:

> However, to help you in making judgements about the groups I want you to imagine that Group A are <u>TOUR GUIDES</u> and that Group B are <u>CHESS PLAYERS</u>.

All participants were instructed to read the statements presented to them carefully and to try to form an impression of what each group was like. The behavioural statements were then presented to participants on an overhead projector, one at a time, at a rate of approximately 5 seconds per statement.

After viewing the behaviours, participants were asked to complete a questionnaire concerning the impressions they had just formed of the two groups which was almost identical to that used in Experiment 1. One difference was that participants were asked to indicate if they had been told which groups of people were represented by Group A and Group B and if so to indicate. This served as a manipulation check. All participants completed the dependent measures and recorded their gender and age. The dependent measures employed were identical to those used in Experiment 1. After collecting questionnaires, all participants were debriefed as to the purpose of the study, thanked and dismissed.

Results

Manipulation check

Ten participants failed to correctly identify the two groups and were excluded from further analyses. This left a total sample of 82 participants. Seventy percent of this sample were female and the average age was 19.3 years.

Unlike Experiment 1, we did not check whether participants overall had judged Group A to be more intelligent than Group B, and Group B to be more intelligent than Group A because we expected these judgements to be influenced by group labels. However, as these differences were found in Experiment 1 we can be confident that the stimulus materials were successful in creating the desired differences between groups.

Data screening and overview of analyses

Following elimination of participants who failed the manipulation check, an examination revealed that there were quite uneven cell sizes across conditions (see Table 7.6 below) and initial analyses revealed that the assumption of homogeneity of variance may have been violated for some dependent variables.

To overcome this problem, cases were randomly deleted from the two larger cells to 18 participants per cell to produce more equal cell sizes. Analysis of variance is robust to violations of homogeneity of variance if cell sizes are equal (Kirk, 1982). All analyses were run with both the full sample and the reduced sample. There were very few changes in the significance of results across the two analyses, with two previously significant results becoming marginally significant with the reduced sample. We decided to take the most conservative approach and thus all results reported below are based on the reduced sample. This sample consisted of approximately 68% females and had an average age of 19.4 years. Analyses using the full sample are included in Appendix C.

Table 7.6

Original cell sizes: Experiment 2

Comparative Fit:	High for Friendliness	High for Intelligence
Consistent Labels	16	23
Inconsistent Labels	17	26

As in the previous experiment, the main predictions were tested using planned contrasts (based on a priori predictions) and all t-values are based on one-tailed tests unless otherwise specified.

Predictions 1, 2 and 3

Mean ratings for intelligence and friendliness for Group A and Group B across comparative fit and label-type were calculated. Likewise, as in Experiment 1, difference

scores for friendliness and intelligence were calculated in the manner described above.

These means (and associated standard deviations) are presented in Table 7.7 below:

Table 7.7

Mean ratings of perceived friendliness and intelligence for Group A and Group B, and mean difference scores: Experiment 2

Comparative fit:	High for Friendliness			High for Intelligence		
Group:	A	B	Diff	A	B	Diff
FRIENDLINESS RATINGS:						
Consistent labels	4.13	7.38	3.25	4.89	7.33	2.44
	(1.31)	(1.46)	(1.69)	(1.23)	(1.14)	(2.12)
Inconsistent labels	5.12	6.41	1.29	5.28	6.56	1.28
	(1.65)	(1.37)	(2.57)	(1.84)	(1.38)	(2.88)
INTELLIGENCE RATINGS:						
Consistent labels	6.69	5.00	1.69	7.39	4.89	2.50
	(1.30)	(.97)	(1.45)	(.85)	(1.32)	(1.76)
Inconsistent labels	6.47	6.06	.41	6.44	5.67	.78
	(.72)	(.97)	(1.12)	(1.25)	(1.91)	(2.29)

Note: Scores for Group A and Group B can range from 1 to 9; diff = mean difference scores, these can range from -8 to +8; a higher score indicates more stereotyping, a negative score would indicate reverse stereotyping, a zero score would indicate no stereotyping; standard deviations in brackets.

A 2 (comparative fit: high for friendliness/high for intelligence) x 2 (label-type: consistent/inconsistent) x 2 (dimension: friendliness/intelligence) ANOVA with a repeated measure on the last factor was carried out on the mean difference scores. This yielded a significant main effect for label-type , $F(1,65)=12.6$, $p<.001$. As predicted (prediction 1), participants stereotyped more when labels were consistent versus inconsistent regardless of the degree of comparative fit or dimension. Figures 7.2 and 7.3 below illustrate this effect separately for the friendliness and intelligence dimensions:
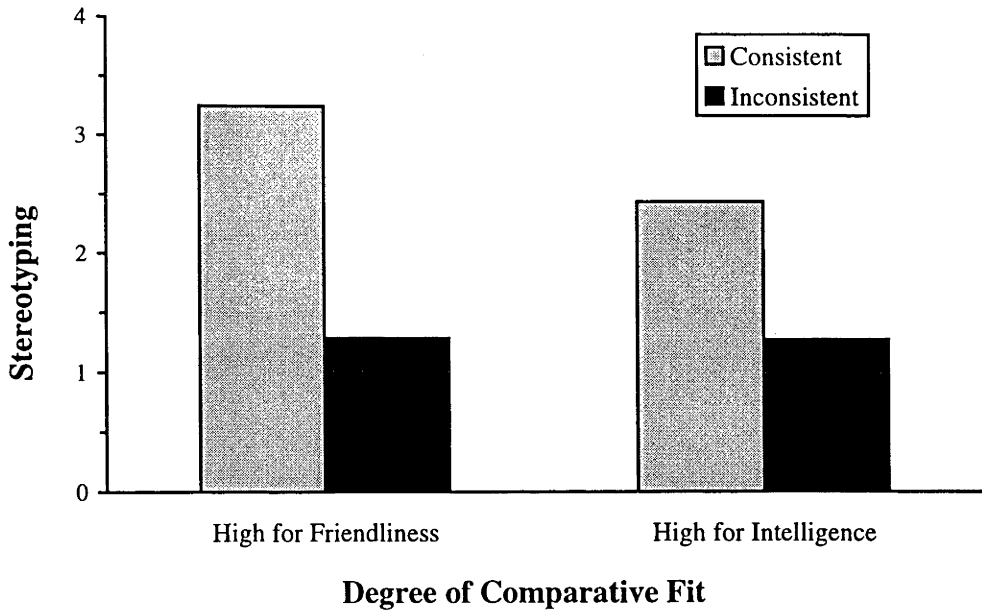
Figure 7.2 Stereotyping on friendliness dimension across label-type and comparative fit: Experiment 2
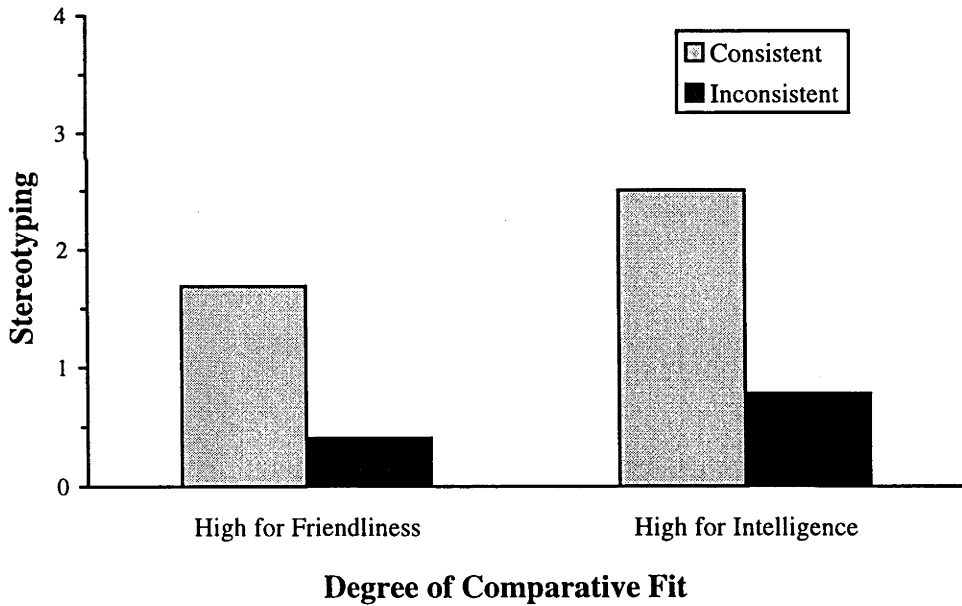
Figure 7.3 Stereotyping on intelligence dimension across label-type and comparative fit: Experiment 2

As can be seen in the above figures, for both dimensions the most stereotyping occurred in the condition with both consistent labels <u>and</u> higher comparative fit for that dimension. It can also be seen that label-type had a powerful influence on stereotyping with more stereotyping occurring in the consistent versus inconsistent labels conditions.

In Figures 7.2 and 7.3 we can see differences in stereotyping across comparative fit for the consistent labels condition but not for the inconsistent labels condition (supportive of predictions 2 and 3). However, contrary to prediction 2, no significant interaction between degree of comparative fit and label-type was found, and planned pairwise comparisons revealed no significant differences across comparative fit when labels were consistent. In support of prediction 3, there were also no significant differences across comparative fit when labels were inconsistent.

The ANOVA also yielded a significant main effect for dimension, $F(1,65)=8.1$, $p<.01$, which was qualified by a marginally significant comparative fit by dimension interaction, $F(1,65)=3.87$, $p<.055$. The nature of this interaction (collapsing across label-type) is illustrated in Figure 7.4 below:
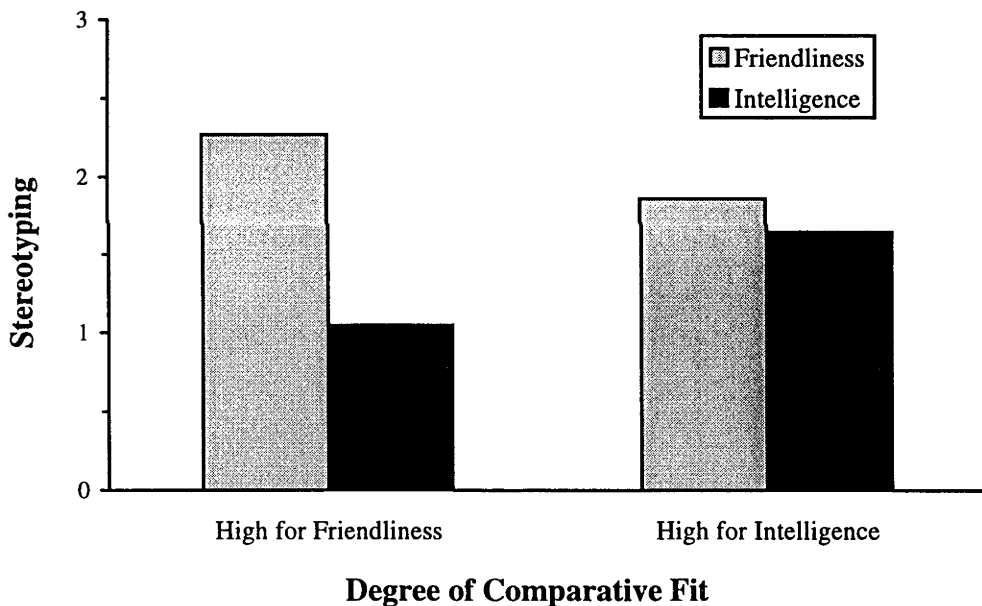
Figure 7.4 **Stereotyping across comparative fit and dimension: Experiment 2**

It appears from the above figure that participants differentiated more between groups in terms of the friendliness dimension than the intelligence dimension but only in the condition with high comparative fit for friendliness. Likewise, we can see that participants tended to differentiate more in terms of friendliness when comparative was higher for that dimension and more in terms of intelligence when comparative fit was higher for that dimension. However, pairwise contrasts showed only one significant

difference. Consistent with Experiment 1, participants differentiated between groups more in terms of friendliness than intelligence when comparative fit was higher for friendliness, $\underline{t}(65)=3.30$, $\underline{p}<.05^{11}$.

Thoughts generated

As in Experiment 1, the number of thoughts generated by participants were coded by the experimenter and an independent judge (a postgraduate student) who were both blind to condition. Each thought was coded as being associated with either intelligence or friendliness, or irrelevant to either dimension, and for being either positively or negatively valenced, or neutral. Agreement between judges was 85% and disagreements were decided by the experimenter.

Initially, total thought listings for Group A were combined with total thought listings for Group B and the valence of the thoughts was ignored. The mean number of thoughts relating to intelligence or friendliness generated across comparative fit and label-type are presented in Table 7.8 below:

Table 7.8

Mean number of thoughts generated relating to friendliness and intelligence: Experiment 2

Comparative fit:	High for Friendliness	High for Intelligence
FRIENDLINESS THOUGHTS:		
Consistent labels	3.12 (1.91)	3.11 (1.08)
Inconsistent labels	2.06 (1.48)	1.94 (.87)
INTELLIGENCE THOUGHTS:		
Consistent labels	1.75 (1.13)	1.89 (.83)
Inconsistent labels	1.71 (.92)	1.33 (.98)

Note: Scores can range from 0 to 8; standard deviations in brackets.

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[11] With four contrasts, 65 degrees of freedom and $\alpha = .05$ (one-tailed) the critical t-value based on Sidak's multiplicative inequality is 2.28 (Rohlf & Sokal, 1981).

A 2 (comparative fit: high for friendliness/high for intelligence) X 2 (label-type: consistent/inconsistent) x 2 (dimension: friendliness/intelligence) ANOVA with a repeated measure on the last factor was performed on the mean number of thoughts generated. This revealed significant main effects for label-type, $F(1,65)=18.08$ $p<.001$, and dimension, $F(1,65)=15.35$, $p<.001$. There were no significant effects involving the comparative fit variable. Thus, overall participants generated more thoughts in the consistent versus inconsistent labels condition. In general more thoughts relating to friendliness were generated than thoughts relating to intelligence.

Again, we also did a further analysis that took into account the valence of the generated thoughts. We calculated an overall relative positivity score for thoughts generated about both Group A and Group B using the method outlined in Experiment 1. Mean scores for each group across comparative fit and label-type appear in Table 7.9 below:

Table 7.9

Relative positivity of thoughts generated about Group A and Group B:
Experiment 2

Comparative fit:	High for Friendliness	High for Intelligence
GROUP A		
Consistent labels	-.56 (1.55)	-.33 (.84)
Inconsistent labels	.59 (1.37)	.39 (1.38)
GROUP B		
Consistent labels	1.19 (1.17)	.67 (1.45)
Inconsistent labels	.35 (1.50)	.11 (1.32)

Note: Scores can range from -4 to +4; standard deviations in brackets.

A 2 (comparative fit: high for friendliness/high for intelligence) X 2 (label-type: consistent/inconsistent) x 2 (group: A/B) ANOVA with a repeated measure on the last factor was performed on the mean relative number of positive thoughts generated. This revealed a significant main effect for group, $F(1,65)=4.30$ $p<.05$, and a significant group by label interaction, $F(1,65)=9.14$, $p<.01$. Thus, when labels were consistent, there were

relatively more positive thoughts generated about Group B compared to Group A, consistent with the results of Experiment 1.

Recalled behaviours

A final analysis looked at the number of recalled behaviours. The mean total number of correctly recalled behaviours related to friendliness and to intelligence across comparative fit and label-type were calculated. Means appear in Table 7.10 below:

Table 7.10

Mean number of recalled behaviours relating to friendliness and intelligence: Experiment 2

Comparative fit:	High for Friendliness	High for Intelligence
FRIENDLINESS BEHAVIOURS:		
Consistent labels	2.07 (.96)	3.00 (1.65)
Inconsistent labels	2.47 (1.38)	2.67 (1.94)
INTELLIGENCE BEHAVIOURS:		
Consistent labels	2.20 (1.57)	3.56 (1.54)
Inconsistent labels	2.53 (1.23)	2.56 (1.72)

Note: Standard deviations in brackets.

A 2 (comparative fit: high for friendliness/high for intelligence) x 2 (label-type: consistent/inconsistent) x 2 (dimension: friendliness/intelligence) ANOVA with a repeated measure on the last factor revealed only a marginally significant main effect for degree of comparative fit, $F(1,65)=3.72$, $p<.06$. Overall participants tended to recall more behaviours of either type (intelligent or friendly) when comparative fit was high for intelligence versus friendliness. However, there were no differences across the types (friendly versus intelligent) of behaviours recalled suggesting there was not superior recall for either dimension.

Discussion

As predicted, strong effects were found for the label-type variable such that participants stereotyped significantly <u>more</u> when labels were consistent with intergroup differences versus inconsistent. Consistent with prediction 1, more stereotyping occurred when there was good normative fit versus no (or counter-) normative fit. This difference was found on both the trait rating measure and the thought generation measure. However, no significant interaction between normative fit and comparative fit was found. While there were no significant differences across degree of comparative fit when labels were inconsistent (as per prediction 3) there were also no significant differences across degree of comparative fit when labels were consistent (contrary to prediction 2).

For both the intelligence and friendliness dimensions the most stereotyping occurred in the condition with both high comparative fit and consistent labels. However, because of the lack of differences across the comparative fit variable we cannot conclude that most stereotyping is occurring when both normative fit is good <u>and</u> comparative fit is highest compared to when normative fit is good and comparative fit is lower. From these results we can only conclude that, given comparative fit, more stereotyping occurs when normative fit is good compared to when it is not.

Once again (consistent with Experiment 1) participants differentiated between groups more in terms of friendliness than intelligence in the high comparative fit for friendliness condition, but differentiated equally in terms of both dimensions in the high comparative fit for intelligence condition. In general, it appeared that differentiation between groups was more extreme on the friendliness versus the intelligence dimension; even when labels were inconsistent participants differentiated between groups more in terms of friendliness than intelligence

Thus, in this experiment, strong effects were found for the normative fit variable with more stereotyping occurring where labels were consistent with intergroup differences and less stereotyping where labels were inconsistent with intergroup differences. There was less differentiation between groups in terms of a dimension when there was

comparative fit for that dimension but no normative fit, suggesting that it is not enough for differences to exist between groups for stereotyping to occur; those difference must also be in a meaningful direction. It appeared in this experiment that the most stereotyping occurred when comparative and normative fit were operating together. However, we found no significant differences across the degree of comparative fit in this experiment. That is, stereotyping in terms of a dimension was not significantly greater when there was normative fit and high comparative fit for that dimension, compared to normative fit and lower comparative fit.

General Discussion

In Experiment 1, we found that participants' stereotypes of groups reflected the dimension for which there was higher comparative fit in the high comparative fit for friendliness condition but not in the high comparative fit for intelligence condition. Therefore, our experiment only partially replicated the findings of Ford and Stangor (1992). In addition, we found that participants stereotyped more in terms of a dimension when there was high comparative fit for that dimension versus lower comparative fit. In Experiment 2, we found that participants stereotyped groups more in terms of a dimension when there was high comparative fit and good normative fit for that dimension versus high comparative and counter-normative fit. However, contrary to our predictions, we did not find a significant interaction between comparative and normative fit.

In considering these results, we need to ask why we failed to completely replicate the findings of Ford and Stangor (1992 — Experiment 1). That is, we need to examine why participants did not differentiate between groups more in terms of intelligence than friendliness in the high comparative fit for intelligence condition. One difference between their experiment and ours was that they varied differences between groups while holding variability within groups constant, whereas we attempted to vary both of these factors. While we reasoned this was a stronger manipulation of comparative fit, it may have influenced results especially given that we were measuring perceived differences between groups rather than perceived variability within groups. Also, in

general, the pretest differences between groups were more extreme in Ford and Stangor's experiment compared to the current ones, and this may have influenced subsequent perceptions of differences between groups.

In both of our experiments we tended to find less differentiation in terms of the intelligence dimension than the friendliness dimension. It appeared that our participants may have been less willing to give very low ratings on the intelligence dimension. As discussed above, this may be attributable to norms or social rules which sanction against judging someone to be extremely 'dumb' (see social judgeability theory). Likewise, there was some evidence that the two dimensions, intelligence and friendliness, may have shaped interpretations of each other. Specifically, it is possible that friendliness may have 'anchored' impressions of the two groups with the friendly group being judged as generally positive regardless of intelligence and the unfriendly group being judged as generally negative regardless of intelligence. In the next experiments we sought to examine further the types of impressions which were formed of each group.

In addition, there is a difference between the dimensions intelligence and friendliness in that intelligence may be considered innate, whereas friendliness can be employed more instrumentally (i.e., we can be friendly when we choose to be but we have less choice about being intelligent). This relates to why friendliness may shape perceptions more as it may be seen as a behaviour that people have more control over. Therefore, choosing to be highly friendly may be seen as more positive than being born highly intelligent. The group labels employed in this study may have related somewhat differently to the innate versus instrumental nature of the dimensions. That is, one assumes chess players are inherently intelligent whereas tour guides may only be instrumentally friendly in the context of their occupation. Thus, it may be more consistent to employ a category label, other than 'tour guide', which implies more inherent rather than instrumental friendliness.

All the points outlined above were followed up in the next set of experiments. Finally, in the current experiments it could be argued that when participants rated Group A as

unfriendly and intelligent, and Group B as friendly and unintelligent, they were not stereotyping but merely 'reproducing' the 'reality' which the experimenter presented them with. While we have argued that stereotyping <u>does</u> reflect reality we also believe that social categorization and stereotyping allow perceivers to 'go beyond' the information given (Bruner, 1957). To demonstrate this point, we included measures other than direct ratings of intelligence and friendliness in the next set of experiments.

Chapter 8

Experiments 3 and 4: Comparative Fit, Normative Fit and Stereotype Content (II)

Experiments 3 and 4, in common with Experiments 1 and 2, sought to manipulate comparative and normative fit, and to examine the effects on stereotype content. These experiments were conceptually very similar to Experiments 1 and 2, and also sought to test the first hypothesis (H1) of the thesis. However, these experiments also sought to address a number of the issues raised by Experiments 1 and 2 as discussed in the previous chapter.

Experiment 3 manipulated degree of comparative fit only (as per Experiment 1). Once again, this was manipulated via the presentation of behavioural statements relevant to the intelligence and friendliness of two groups. Experiment 4 manipulated both comparative and normative fit (as per Experiment 2). Once again, normative fit was manipulated via the direction of differences between groups. The changes implemented in the current experiments related to the issues raised with respect to Experiments 1 and 2 in the previous chapter. These changes and the rationale for them are outlined below:

(a) in manipulating degree of comparative fit in the previous experiments we varied both mean differences between groups and variability within groups whereas Ford and Stangor (1992) only manipulated one or the other of these variables. In the current experiments we only varied the level of mean differences between groups (while keeping variability within groups constant) to be more consistent with Ford and Stangor's original experiment.

(b) some changes were made to the behavioural statements presented to participants in these experiments with the aim of creating larger mean between-group differences than in the previous experiments.

(c) in Experiment 4, the group labels were changed from 'chess players' and 'tour guides' to 'chess players' and 'charity workers'. The reason for this is that friendliness of charity workers may be judged to be more inherent rather than instrumental. Therefore this label is more consistent with the 'chess player' label. Given this, the friendliness dimension may be interpreted as innate and therefore be more consistent with the intelligence dimension.

(d) in the previous experiments it appeared that the two dimensions, intelligence and friendliness, may have shaped interpretations of each other. In particular we surmised that the combination of dimensions may have resulted in one group being seen on the whole as more positive than the other group. Likewise, it is possible that participants may have been reluctant to make negative judgements about intelligence. We included some measures in these experiments to further explore these possibilities. Firstly, the 'thought listing' measure employed in the previous experiments was replaced by a measure designed to uncover participants' explanations for the behaviour of members of the two groups and to investigate whether the two dimensions (intelligence and friendliness) influenced the interpretation of each other. Secondly, to assess whether one group was seen in generally more positive terms than the other group, participants completed a Katz-Braly type checklist measure of traits descriptive of each group. This measure also allowed us to consider how participants were 'going beyond' the data they were presented with in forming impressions of the two groups. Further details of these measures appear in the methods sections below.

Overview of Experiment 3

Experiment 3 was very similar to Experiment 1. Participants were presented with behaviours performed by members of two groups (Group A and Group B) and asked to form impressions of each group. Once again, Group A were always described as being more intelligent and less friendly than Group B. The degree of comparative fit was manipulated such that it was higher for friendliness in one condition and higher for intelligence in the other condition.

In manipulating comparative fit in this experiment, unlike Experiment 1, we only varied differences between groups and kept variability within groups constant (this is consistent with Ford & Stangor, 1992, Experiment 1). We chose behaviours such that average differences between groups were higher for the friendliness dimension in the high comparative fit for friendliness condition and higher for intelligence in the high comparative fit for intelligence condition. In terms of variability, we sought to ensure that variability within groups did not differ across conditions.

Predictions

The predictions were identical to those of Experiment 1.

> 1. For the high comparative fit for friendliness condition, it was predicted that participants would differentiate between groups A and B more in terms of the friendliness dimension compared to the intelligence dimension. Likewise, for the high comparative fit for intelligence condition, it was predicted that participants would differentiate between groups A and B more in terms of the intelligence dimension than the friendliness dimension.

> 2. Participants would differentiate more in terms of the friendliness dimension in the high comparative fit for friendliness condition (compared to the high comparative fit for intelligence condition) and more in terms of the intelligence dimension in the high comparative fit for intelligence condition (compared to the high comparative fit for friendliness condition).

Method

Participants and Design

Participants were 20 first year psychology students at the Australian National University in Canberra. All students who participated in the study received course credit. Seventy-five percent of the sample were female. Participants were randomly assigned to experimental conditions. One independent variable was manipulated, degree of comparative fit, which had two levels, high for friendliness versus high for intelligence.

Stimulus materials

Behavioural descriptions, drawn from those used in Experiment 1 and those used by Ford and Stangor (1992), were used. Each description referred to a member of one of the target groups performing a behaviour that was related to either intelligence,

friendliness or was neutral. For example, a description of a behaviour relating to intelligence (negative) performed by a member of Group B was: "A member of Group B failed his written driver's test for the fourth time". A description of a behaviour relating to friendliness (positive) performed by a member of Group B was: "A member of Group B regularly hosts dinner parties". A description of a neutral behaviour performed by a member of Group A was : "A member of Group A took out the day's garbage before going to bed".

Each target group (Group A and Group B) was described by 15 different behaviours: 5 related to intelligence, 5 related to friendliness and 5 that were not related to either intelligence or friendliness (neutral)[12]. This was changed from Experiment 1 (where 18 statements/group were used) to make the task less arduous for participants (and because of time constraints). In all conditions, each group was described favourably in terms of one dimension and negatively in terms of the other. Group A was always described (on average) by behaviours that were more intelligent and less friendly than Group B. The reverse pattern held for descriptions of Group B. The statements were selected on the basis of pretest ratings of behaviours in terms of intelligence and friendliness given by 20 independent participants from the same population. These participants rated 80 behavioural statements in terms of both intelligence and friendliness on 9-point scales ranging from 1 (extremely unintelligent/extremely unfriendly) to 9 (extremely intelligent/extremely friendly). These participants did not take part in the subsequent experiment.

In the <u>high comparative fit for friendliness</u> condition, the behaviours were selected to create a larger mean difference between the two group in terms of friendliness ($\underline{M}$=2.98 for Group A and $\underline{M}$=7.29 for Group B), $\underline{t}$(19)=14.8, $\underline{p}$<.001, and a smaller mean difference in terms of intelligence ($\underline{M}$=6.00 for Group A and $\underline{M}$=4.01 for Group B), $\underline{t}$(19)=7.41, $\underline{p}$<.001. The difference between the groups was significantly greater for the friendliness than the intelligence attribute dimension, $\underline{t}$(19)=10.65, $\underline{p}$<.001. In the <u>high comparative fit for intelligence</u> condition, the behaviours were selected to create a larger

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[12] Details of the statements used to describe each group appear in Appendix A.

mean difference between the groups in terms of intelligence ($\underline{M}$=7.66 for Group A and $\underline{M}$=2.85 for Group B), $\underline{t}$(19)=12.51, $\underline{p}$<.001, and a smaller mean difference in terms of friendliness ($\underline{M}$=3.96 for Group A and $\underline{M}$=6.62 for Group B), $\underline{t}$(19)=10.9, $\underline{p}$<.001. The difference between the groups was significantly greater for the intelligence than the friendliness dimension, $\underline{t}$(19)=7.08, $\underline{p}$<.001.

The mean pretest ratings (in terms of both intelligence and friendliness) of stimulus statements describing both groups in both conditions are summarised in Table 8.1 below. Differences created between groups on each dimension are also reported. The 'difference between differences' was larger for both conditions compared to Experiments 1 and 2, creating a stronger manipulation of the degree of comparative fit.

Table 8.1

Mean pretest ratings of friendliness and intelligence stimulus statements for Group A and Group B, and mean differences between groups for each dimension: Experiment 3

Comparative fit:	High for Friendliness			High for Intelligence		
Group:	A	B	Diff	A	B	Diff
Friendliness	2.98	7.29	4.31	3.96	6.62	2.66
Intelligence	6.00	4.01	1.99	7.66	2.85	4.81

Note: Diff = difference between groups A and B.

In terms of variability, we sought to ensure that variability within groups did not differ across conditions (as per Ford & Stangor, 1992, Experiment 1). Homogeneity of variance tests showed that in the high comparative fit for friendliness condition that variability associated with the friendliness dimension was not significantly different from that associated with the intelligence dimension within both Group A ($\underline{SD}$'s=.38 vs. .16), Cochran's $\underline{C}$(4,2)=.85, $\underline{p}$>.05, and Group B ($\underline{SD}$'s=.15 vs. .12), Cochran's $\underline{C}$(4,2)=.60, $\underline{p}$>.05. In addition, variability in friendliness was not significantly different across groups, Cochran's $\underline{C}$(4,2)=.87, $\underline{p}$>.05 and variability in intelligence was not

significantly different across groups, $\underline{C}(4,2)=.64$, $\underline{p}>.05$. Likewise, in the <u>high comparative fit for intelligence</u> condition homogeneity of variance tests showed that variability associated with the intelligence dimension was not significantly different from that associated with the friendliness dimension within both Group A ($\underline{SD}$'s=.47 vs. .22), Cochran's $\underline{C}(4,2)=.82$, $\underline{p}>.05$, and Group B ($\underline{SD}$'s=.28 vs. .33), Cochran's $\underline{C}(4,2)=.59$, $\underline{p}>.05$. In addition, variability in friendliness was not significantly different across groups, Cochran's $\underline{C}(4,2)=.74$, $\underline{p}>.05$, and variability in intelligence was not significantly different across groups, Cochran's $\underline{C}(4,2)=.70$, $\underline{p}>.05$.

Thus, in the <u>high comparative fit for friendliness</u> condition, there was a larger mean differences between groups on the friendliness dimension compared to the intelligence dimension. Likewise, in the <u>high comparative fit for intelligence</u> condition there was a larger mean difference between groups on the intelligence dimension compared to the friendliness dimension. However, as in the previous experiments, there was always comparative fit for both dimensions in both conditions.

Procedure

All participants were shown instructions concerning the experiment which were also read aloud by the experimenter. In all conditions the instructions read:

> This study concerns social judgement based upon limited information. I am going to give you some information about people from different groups and later ask you to make some judgements about them. In a moment I will show you some statements describing behaviours performed by different members of two groups. For convenience these groups have been labelled <u>Group A</u> and <u>Group B</u>.

All participants were instructed to read the statements carefully and to try to form an impression of what each group was like. The behavioural statements were then presented to participants on a video one at a time, at a rate of approximately 5 seconds per statement. The order of statements was random.

After viewing the behaviours, participants were asked to complete a questionnaire concerning the impressions they had just formed of the two groups. Before completing the dependent variables (outlined below) participants were asked to "think about what

the people in Group A and Group B are like" and then to write a brief description of their impressions of the people in Group A and the people in Group B. Next, participants were asked to "think about the reasons why the people in Group A and Group B are the way that they are" and to then write a short description to account for the behaviours of the people in Group A and Group B. These tasks were designed to elicit participants' explanations for the behaviours of the two groups. All participants then completed the dependent measures and recorded their gender. After collecting questionnaires, all participants were debriefed as to the purpose of the study, thanked and dismissed.

Dependent variables

There were some changes to the dependent variables compared to those used in Experiment 1. The first dependent variable was a trait rating measure as employed in Experiment 1. All participants were asked to rate both groups on intelligence and friendliness using 9-point scales (ranging from 1 = extremely unintelligent/extremely unfriendly, to 9 = extremely intelligent extremely friendly).

In addition, all participants completed a Katz-Braly type checklist (1933, 1935 — see Haslam et al., 1996; Haslam et al., 1995; Haslam et al., 1992). This measure was employed to determine the overall impression formed of each group and to see if one group was characterised in more positive terms than the other group. A list of 57 adjectives were used. These were taken largely from the original Katz-Braly (1933) list. However, a number of adjectives from the original list that seemed irrelevant to the judgement at hand were excluded (e.g., physically dirty) and some adjectives were added that seemed particularly relevant (e.g., unfriendly)[13]. Participants were instructed to read through the list of words, and to underline those that seemed typical of Group A while circling those typical of Group B. They were then instructed to go back over the list and mark with an X the five words that seemed most typical of Group A and to tick the five words that seemed most typical of Group B.

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[13] See Appendix B for a full list of the adjectives used.

Results

Overview of analyses

As in Experiment 1, the main predictions of the experiment were tested using planned contrasts. Because these were planned and directional all t-values reported are one-tailed unless otherwise stated. Results of overall ANOVA's have also been reported for completeness.

Trait ratings

Mean ratings for intelligence and friendliness for Group A and Group B across comparative fit were calculated. Likewise, differences scores were calculated in the same manner as in Experiment 1. These means (and associated standard deviations) are presented in Table 8.2 below:

Table 8.2

Mean ratings of perceived friendliness and intelligence for Group A and Group B, and mean difference scores: Experiment 3

Comparative fit:	High for Friendliness			High for Intelligence		
N:		10			10	
Group:	A	B	Diff	A	B	Diff
Friendliness	3.10	7.90	4.80	4.80	7.70	2.90
	(.74)	(.74)	(1.40)	(1.31)	(.68)	(1.29)
Intelligence	7.10	4.80	2.30	7.90	4.70	3.20
	(.88)	(1.69)	(2.31)	(.57)	(1.16)	(1.62)

Note: Scores for groups A and B can range from 1 to 9; standard deviations in brackets; diff = mean difference score, these can range from -8 to +8; a positive score indicates stereotyping..

Initially planned contrasts were carried out to check if Group A were perceived to be more intelligent and less friendly than Group B. As expected, in the high comparative fit for friendliness condition, Group A ($\underline{M}$=7.10) were judged to be significantly more intelligent than Group B ($\underline{M}$=4.80), $\underline{t}(9)$=3.15, $\underline{p}$<.01, and Group B ($\underline{M}$=7.90) were judged to be significantly more friendly than Group A ($\underline{M}$=3.10), $\underline{t}(9)$=10.85, $\underline{p}$<.001. In

the high comparative fit for intelligence condition, Group A (M=7.90) were judged to be significantly more intelligent than Group B (M=4.70), $t(9)$=6.25, p<.001, and Group B (M=7.70) were judged to be significantly more friendly than Group A (M=4.80), $t(9)$=7.13, p<.001. Therefore it appears that the stimulus materials were successful in creating differences between the groups on both dimensions in both conditions.

As in Experiment 1, we also expected that the differences perceived between groups A and B may differ somehow from the stimulus input. Overall, participants appeared to judge both groups in both conditions more positively compared to the stimulus input (see Table 8.1). That is, they judged Group A to be more intelligent and less unfriendly, and Group B to be more friendly and less unintelligent. In all cases, the overall differences between groups appear to be accentuated with the exception of the intelligence dimension in the high comparative fit for intelligence condition. In this case, perceived differences between groups are less than the stimulus input, with Group A being judged to be slightly more intelligent, but Group B seen as much less unintelligent (as in Experiment 1)

Predictions 1 and 2

To test predictions 1 and 2 mean difference scores were analysed in a 2 (comparative fit: high for friendliness/high for intelligence) x 2 (dimension: friendliness/intelligence) ANOVA with a repeated measure on the last factor. This revealed a main effect for dimension, $F(1,18)$=4.51,p<.05, which was qualified by a significant dimension x comparative fit interaction, $F(1,18)$=7.30,p<.02. The nature of this interaction is represented in Figure 8.1 below.

It can be seen from that figure that the pattern of results was very similar to that observed in Experiment 1. Four planned pairwise contrasts were carried out to test specific predictions (applying Sidak's multiplicative inequality to control for the experiment-wise error rate[14]). Contrasts revealed that when there was high comparative

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[14] Note that with four contrasts, 18 degrees of freedom and α=.05 one-tailed the critical t-value based on Sidak's multiplicative inequality is 2.43 (Rohlf & Sokal, 1981).

fit for friendliness, participants differentiated between groups A and B more in terms of friendliness ($\underline{M}$=4.80) than intelligence ($\underline{M}$=2.30), $\underline{t}$(18)=3.42, $\underline{p}$<.05. Likewise, when there was high comparative fit for intelligence participants differentiated between groups A and B slightly more in terms of intelligence ($\underline{M}$=3.20) than friendliness ($\underline{M}$=2.90), although this difference failed to reach significance, $\underline{t}$(18)=.41, $\underline{p}$>.05. Looking at comparisons across dimensions, participants differentiated in terms of friendliness significantly more in the high comparative fit for friendliness versus high comparative fit for intelligence condition, $\underline{t}$(18)=2.60, $\underline{p}$<.05. Likewise, participants differentiated in terms of intelligence more in the high comparative fit for intelligence versus high comparative for friendliness condition, although this difference was not significant, $\underline{t}$(18)=1.23, $\underline{p}$>.05.
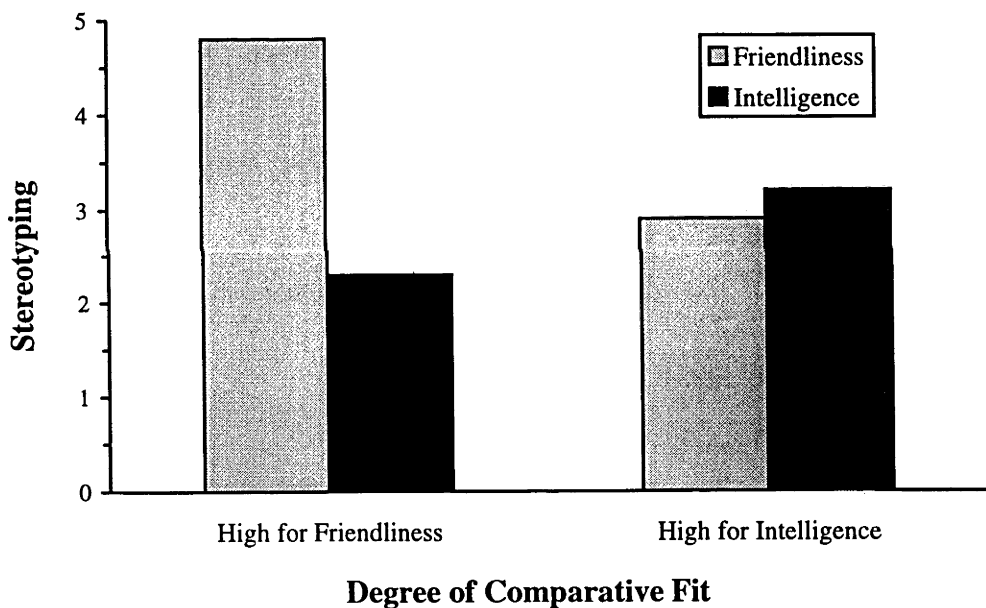
Figure 8.1 **Interaction between comparative fit and dimension on mean difference scores: Experiment 3**

Checklist ratings

The percentage of participants choosing checklist traits to describe groups A and B across both levels of comparative fit appear in Table 8.3 below:

Table 8.3

Percentage of participants choosing each adjective across conditions: Experiment 3

Comparative Fit:	High For Friendliness	High For Intelligence
Group A		
Intelligent	40%	90%
Industrious	–	60%
Ambitious	40%	40%
Individualistic	40%	–
Conceited	40%	–
Reserved	–	40%
Shrewd	30%	–
Quick-tempered	30%	–
Aggressive	30%	–
Argumentative	30%	–
Sophisticated	30%	–
Methodical	–	30%
Practical	–	30%
Conservative	–	30%
Efficient	–	30%
Group B		
Pleasure Loving	–	90%
Friendly	70%	70%
Happy-go-lucky	40%	70%
Courteous	60%	–
Kind	50%	–
Absent-minded	40%	40%
Vague	30%	40%
Talkative	30%	–
Sensitive	30%	–
Generous	30%	–

Note: Due to the relatively small sample size, only traits chosen by at least 30% of participants are included. - = <30%.

It can be seen from above that Group A were characterised more in terms of unfriendliness-related traits where there was <u>high comparative fit for friendliness</u> (e.g., individualistic, conceited, shrewd, quick-tempered, aggressive, argumentative) but more in terms of intelligence-related traits where there was <u>high comparative fit for</u>

intelligence (e.g., intelligent, industrious, ambitious, methodical, practical, efficient). Group B appear to be described positively and in terms of friendliness across both conditions. However, in the high comparative fit for intelligence condition the traits reflect an impression of a relaxed and sociable group (e.g., pleasure-loving, friendly, happy-go-lucky) whereas in the high comparative fit for friendliness condition, the impression is more one of altruism (e.g., friendly, courteous, kind).

A more systematic analysis of adjectives chosen to describe each group was carried out following a method used by Haslam et al. (1992). Each trait on the checklist was characterised as either positive or negative by five independent raters. Where at least four of the raters agreed the trait was deemed to be either positive or negative accordingly, or otherwise it was deemed to be ambiguous. A 'trait favourableness' score was calculated for the five traits assigned by each participant. A +1 was scored for a positive trait, -1 for a negative trait and 0 for an ambiguous trait. Therefore, for each participant there was a positivity score of between +5 and -5 for both Group A and Group B. In terms of positivity, in the high comparative fit for friendliness condition we would Group B to be judged more positively (because here they are presented as extremely friendly and moderately unintelligent) compared to Group A (extremely unfriendly and moderately intelligent). In the high comparative fit for intelligence condition we would expect Group A to be judged more positively (because here they are presented as extremely intelligent and moderately unfriendly) compared to Group B (extremely unintelligent and moderately friendly).

The mean positivity scores were analysed in a 2 (comparative fit: high for friendliness/high for intelligence) x 2(group: A/B) ANOVA with a repeated measure on the last factor. This revealed a significant main effect for group, $F(1,18)=13.32$, $p<.01$, which was qualified by a significant comparative fit x group interaction, $F(1,18)=16.27$, $p<.001$. The nature of that interaction is illustrated in Figure 8.2 below:
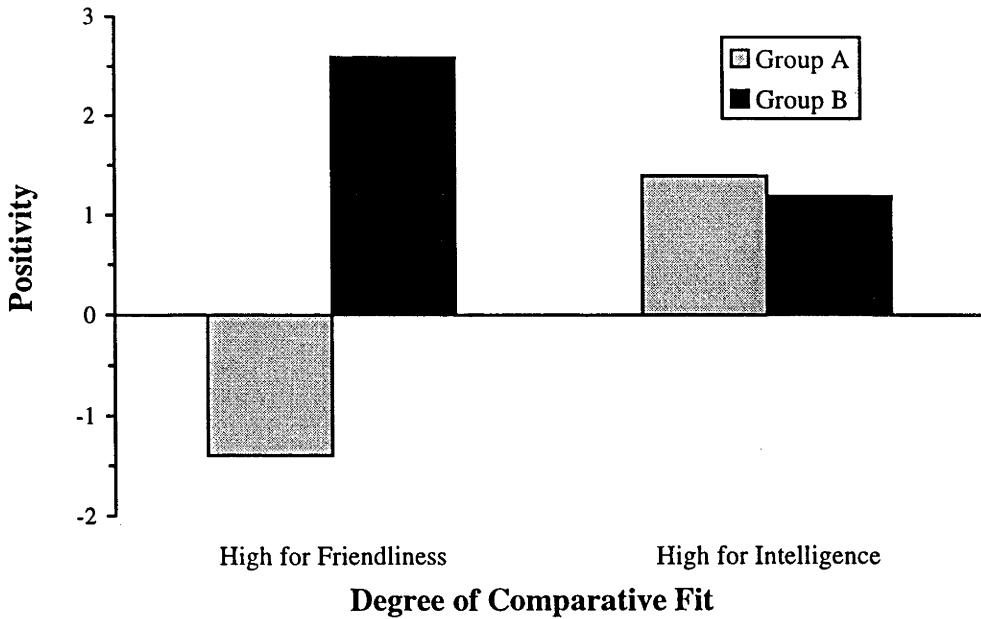
Figure 8.2 Interaction between comparative fit and group on positivity scores: Experiment 3

It can be seen from above that in the high comparative fit for friendliness condition Group B were perceived much more positively than Group A ($\underline{M}$'s = 2.60 and -1.40). Pairwise contrasts[15] revealed that this difference was significant, $\underline{t}$(18)=5.43, $\underline{p}$<.05, two-tailed. In the high comparative fit for intelligence condition Group A and Group B were perceived almost equally positively ($\underline{M}$'s = 1.40 and 1.20). This difference was not significant, $\underline{t}$(18)=.27, $\underline{p}$>.05. In addition, Group A were perceived to be more positive in the high comparative fit for intelligence versus the high comparative fit for friendliness condition, $\underline{t}$(18)=3.80, $\underline{p}$<.05. The positivity of Group B did not differ significantly across degrees of comparative fit, $\underline{t}$(18)=1.90, $\underline{p}$>.05.

Descriptions of Group A and Group B

A qualitative analysis was undertaken of the descriptions written by participants about groups A and B, and reasons for each group's behaviour. In the high comparative fit for friendliness condition, participants seemed to emphasise the unfriendly nature of Group A members (presented as very unfriendly and moderately intelligent). They were

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[15] Note that with four contrasts, 18 degrees of freedom and α=.05 two-tailed the critical t-value based on Sidak's multiplicative inequality is 2.77 (Rohlf & Sokal, 1981). Note that a two-tailed t-test was employed here as we had no a priori predictions concerning the direction of differences.

described as selfish, career-oriented, impatient, success-oriented, arrogant, aggressive and ambitious. For example, one participant described Group A as:

> People who are calculative, self-centred and selfish. They are also self-sufficient and independent.

Participants also appeared to emphasise the 'friendliness' dimension when describing Group B (presented as highly friendly and moderately unintelligent) and there was less mention of intelligence dimension.

In the <u>high comparative fit for intelligence</u> condition, participants tended to describe Group A (presented as high on intelligence and moderate on friendliness) as 'loners' who spent a lot of time on intellectual pursuits and therefore did not have much time to develop friendships. For example, one participant commented that Group A:

> Spent so much time on studies — didn't expand interests or circle of friends then. Prefer own company. Perhaps pushed by family.

Group B (who were presented as highly unintelligent and moderately friendly) were described not so much as 'dumb', but rather as people who had missed out on opportunities or had other priorities. Rather than being 'unintelligent' they were described as 'confused', 'forgetful' and 'impractical'. For example:

> Group B people seem to revolve more around people than careers. It is possible that they have more time to spend with people; also they seemed somewhat confused, maybe because they are frightened by the rules and success Group A is accustomed to.

In general it appeared that participants formed subtly different impressions of the two groups across conditions. In the <u>high comparative fit for intelligence</u> condition, Group A were seen as highly intelligent and studious and this was reasoned to account for their lack of social skills. In comparison, in the <u>high comparative fit for friendliness</u> condition, Group A were perceived as selfish and successful — their unfriendliness seemed to dominate the impression and the interpretation of their intelligence. Overall, the friendliness of Group B seems to offset their unintelligence as participants reason that intellectual pursuits are not important to them and that they are confused or vague

rather than stupid. These impressions seem to be consistent with the checklist data and positivity scores discussed above.

Discussion

The results of Experiment 3 were very similar to those obtained in Experiment 1. As in Experiment 1 some support was found for our predictions. When comparative fit was high for friendliness participants differentiated between groups more in terms of friendliness than intelligence; however, when comparative fit was high for intelligence there was no significant difference in intergroup differentiation in terms of intelligence versus friendliness. In addition, participants differentiated more in terms of friendliness when comparative fit was higher for this dimension (high comparative fit for friendliness) versus lower (high comparative fit for intelligence). There was no significant difference across degrees of comparative fit for the intelligence dimension.

Once again, it appeared that differentiation in terms of the dimension friendliness was generally more extreme than differentiation in terms of intelligence. The analysis of positivity scores showed that in the condition with higher comparative fit for friendliness, Group B were characterised as significantly more positive than Group A. This was also reflected in the descriptions of both groups, with Group A in particular being described in a very negative fashion which reflected their high level of unfriendliness. In the condition with higher comparative fit for intelligence, we expected Group A to be seen more positively than Group B because they were presented as highly intelligent (and only moderately unfriendly) whereas Group B were highly unintelligent (and only moderately friendly). However, there was no difference in terms of how positively participants characterised the two groups in this condition. In particular, Group B were not characterised negatively, but as moderately positive. This was also reflected in the written descriptions where Group B were described as 'forgetful' or 'impractical' rather than unintelligent.

The results discussed above may account for the lack of predicted difference between intelligence and friendliness in the high comparative fit for intelligence condition. It

appears that while Group B in this condition were presented as highly unintelligent, the fact that they were also moderately friendly may have influenced the interpretation of this trait. The result of this appears to be that overall they were seen in a relatively positive light and their lack of intelligence was not accentuated. Thus, the differentiation between groups in terms of intelligence was minimised in this condition because of the relatively high level of intelligence attributed to Group B.

Therefore, it appears that there may be problems associated with the use of the 'intelligence' dimension in this experiment. When combined with information about friendliness, impressions of intelligence may be shaped by impressions of friendliness. It appears from the positivity scores and the written descriptions in this experiment that these two dimensions may not be independent and that friendliness may be the dominant dimension in terms of impressions formed. This point is discussed further in the General Discussion at the end of this chapter.

Overview of Experiment 4

Experiment 4 sought to add a normative fit variable to the design of the previous experiment. In design and procedure it was very similar to Experiment 2. Again, normative fit was operationalised via group labels that were either consistent or inconsistent with the differences between groups. However, this time the labels 'chess player' (stereotypically intelligent but less friendly) and 'charity worker' (stereotypically friendly but less intelligent) were used, with charity worker being substituted for tour guide. This was done because it was felt charity workers were more of an <u>inherently</u> friendly group, whereas tour guides may be only instrumentally friendly. A pretest using an independent sample of 20 participants confirmed that in general charity workers were perceived to be significantly more friendly than chess players (M's=7.70 versus 4.85) $t(19)$=6.43, p<.001, one-tailed, and chess players were perceived to be significantly more intelligent than charity workers (M's=7.15 versus 6.05), $t(19)$=1.70, p<.05, one-tailed.

Experiment 4 was identical to Experiment 3 except that a label-type independent variable was introduced. Participants were either given group labels that were consistent with intergroup differences or that were inconsistent. Thus, they were either told that Group A were chess players and Group B were charity workers, or vice versa. Once again, as in the previous experiments, there was always comparative fit in all conditions, which differed in degree.

Predictions

Predictions were identical to those in Experiment 2. That is:

> 1. For both dimensions more stereotyping should occur when group labels are consistent versus inconsistent with intergroup differences.

> 2. Given consistent labels, there should be more stereotyping in terms of a dimension when the degree of comparative fit for that dimension is high versus low.

> 3. Given inconsistent labels, there should be no differences in the level of stereotyping across the degree of comparative fit for either dimension.

Method

Participants and design

Participants were 46 first year psychology students at the Australian National University in Canberra. All students participated in the study for course credit. Approximately 65% of the sample were female. Participants were randomly assigned to experimental conditions. Two independent variables were manipulated in a 2 (degree of comparative fit: high for friendliness/high for intelligence) x 2 (label-type: consistent/inconsistent) between subjects design.

Stimulus materials

The same behavioural statements used in Experiment 3 were employed in this experiment.

Procedure

All participants were shown instructions concerning the experiment which were also read aloud by the experimenter. In all conditions the instructions were:

> This study concerns social judgement based upon limited information. I am going to give you some information about people from different groups and later ask you to make some judgements about them. In a moment I will show you some statements describing behaviours performed by different members of two groups. For convenience these groups have been labelled Group A and Group B.

These instructions were identical to those in Experiment 3. In addition, participants in the consistent labels conditions were given these instructions:

> However, it may help you to know that the behavioural statements to be presented were gathered in a previous study from groups of CHARITY WORKERS and CHESS PLAYERS. The statements to be presented about GROUP A refer to the CHESS PLAYERS, while the statements to be presented about GROUP B refer to the CHARITY WORKERS.

while the additional instructions for participants in the inconsistent labels condition read:

> However, it may help you to know that the behavioural statements to be presented were gathered in a previous study from groups of CHESS PLAYERS and CHARITY WORKERS. The statements to be presented about GROUP A refer to the CHARITY WORKERS, while the statements to be presented about GROUP B refer to the CHESS PLAYERS.

These instructions were slightly different from those employed in Experiment 2 where participants were instructed to 'imagine' that groups A and B were the occupational groups presented (e.g., imagine that Group A are chess players). It was thought that these instructions might be more convincing than the instructions employed in Experiment 2.

All participants were instructed to read the statements presented to them carefully and to try to form an impression of what each group was like. The behavioural statements were then presented to participants on a video, one at a time, at a rate of approximately 5 seconds per statement.

After viewing the behaviours, participants were asked to complete a questionnaire concerning the impressions they had just formed of the two groups. This questionnaire was almost identical to that used in Experiment 3. One difference was that participants were asked to indicate if they had been told which groups of people were represented by Group A and B and if so to indicate. This served as a manipulation check. All participants completed the dependent measures and recorded their gender. The dependent measures employed were identical to those used in Experiment 3. After collecting questionnaires, all participants were debriefed as to the purpose of the study, thanked and dismissed.

Results

Manipulation check and cell sizes

Two participants failed to correctly identify the two groups and were excluded from further analyses. This left data from 44 participants for analysis. The distribution of these participants across conditions is presented in Table 8.4 below. All analyses are based on these cell sizes unless otherwise stated.

Table 8.4

Cell sizes: Experiment 4

Comparative fit:	High for Friendliness	High for Intelligence
Consistent labels	11	10
Inconsistent labels	13	10

Trait ratings

Mean ratings for friendliness and intelligence for Group A and Group B across degree of comparative fit and label-type were calculated. Likewise, as in Experiment 3, difference scores for friendliness and intelligence were calculated in the manner described above. These means (and associated standard deviations) are presented in Table 8.5 below:

Table 8.6

Percentage of participants choosing each adjective across conditions: Experiment 4

Comparative Fit:	High For Friendliness		High For Intelligence	
Labels:	**Consistent**	**Inconsistent**	**Consistent**	**Inconsistent**
Group A				
Intelligent	80%	80%	73%	50%
Ambitious	–	–	70%	30%
Scientific minded	–	–	30%	50%
Preoccupied	–	42%	40%	–
Industrious	–	–	40%	–
Practical	–	–	–	40%
Efficient	–	–	40%	–
Methodical	36%	–	30%	–
Individualistic	36%	–	30%	–
Arrogant	–	33%	–	–
Quick-tempered	–	–	–	30%
Brilliant	–	–	–	30%
Quiet	–	–	–	30%
Group B				
Friendly	82%	83%	60%	60%
Absent-minded	–	33%	40%	70%
Generous	56%	42%	30%	–
Vague	–	–	–	50%
Happy-go-lucky	46%	33%	–	40%
Pleasure Loving	–	–	30%	40%
Talkative	36%	–	30%	–
Courteous	–	–	30%	–
Kind	–	–	30%	–
Passionate	–	–	30%	–
Stupid	–	–	–	30%

Note: Only traits chosen by at least 30% of participants included. - = <30%.

As in Experiment 3, a positivity score was calculated for each subject for both Group A and Group B. These were then analysed in a 2 (comparative fit: high for friendliness/high for intelligence) x 2 (label-type: consistent/inconsistent) x 2 (group: A/B) ANOVA with a repeated measure on the last factor. This revealed a significant

main effect for comparative fit, $F(1,40)=4.40$, $p<.05$, a significant main effect for group, $F(1,40)=10.22$, $p<.01$, and a significant comparative fit x group interaction, $F(1,40)=7.11$, $p<.02$. The nature of that interaction (collapsed across label-type) is illustrated in Figure 8.3 below:
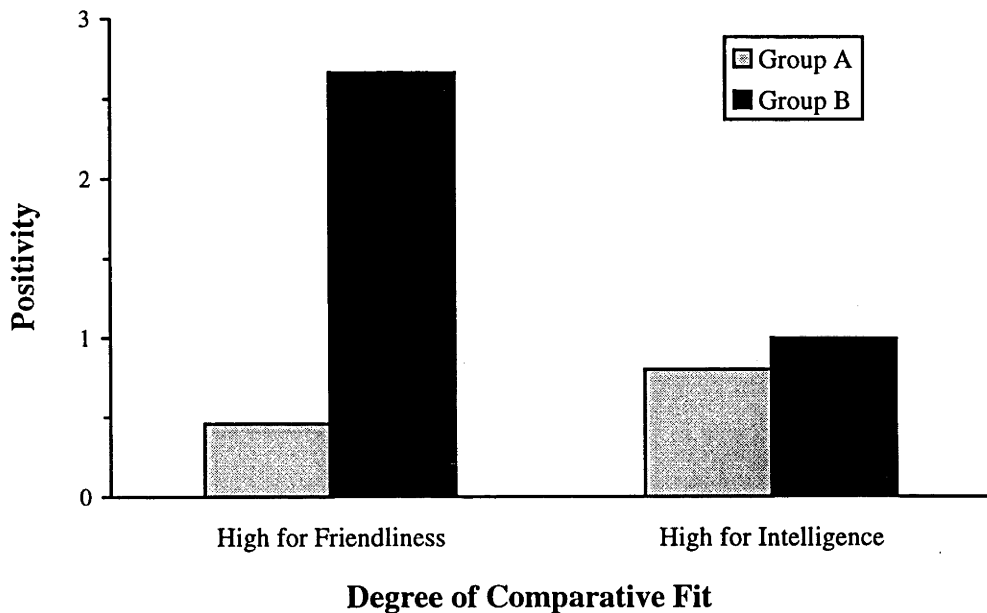
Figure 8.3 **Interaction between comparative fit and group on positivity scores: Experiment 4**

As in Experiment 3 it appears that participants perceived Group A and B equally in terms of positivity in the high comparative fit for intelligence condition (M's = .80 vs. 1.00), $t(40)=.36$, $p>.05$, but perceived Group A to be less positive than Group B in the high comparative fit for friendliness condition (M's = .46 vs. 2.67), $t(40)=4.36$, $p<.05$. In addition, Group B were perceived more positively in the high comparative fit for friendliness condition compared to the high comparative fit for intelligence condition, $t(40)=3.15$, $p<.05$. The positivity of Group A did not differ across degree of comparative fit, $t(40)=.64$, $p>.05$.[16]

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[16] Note that with four contrasts, 40 degrees of freedom and $\alpha=.05$ two-tailed the critical t-value based on Sidak's multiplicative inequality is 2.61 (Rohlf & Sokal, 1981). Note that a two-tailed t-test was employed here as we had no a priori predictions concerning the direction of differences.

Descriptions of Group A and Group B

Again, a qualitative analysis was performed of the descriptions written by participants of groups A and B and reasons for their behaviour. These are summarised below for each condition (with examples).

Consistent labels/high comparative fit for friendliness

In this condition, Group A were described as 'go-getter types', introverted and self-interested, highly strung, self-centred, and not as easy-going as Group B. The label 'chess-player' was used to make sense of the behaviours performed by this group:

> Chess is a game of planning, strategy, thinking, intelligence — people who play are generally more intelligent than the average hence income group higher, mind logical, able to plan. However due to discrimination of the chess culture as nerds socially outcast, negative view of society.

Group B were seen as more experienced and mature, more interactive and caring. It was reasoned that charity workers are outgoing and extroverted because they work with people and that they tend to be friendly, easy-going, helpful and caring

Consistent labels/high comparative fit for intelligence

Group A was generally described as intelligent loners, intellectual and anti-social. They were characterised as academic and cloistered, developed intellectually but not emotionally. A number of participants mentioned the fact that they were 'chess players' in their explanations, for example:

> Chess players tend to have an intellectual mind — capable of complex thought patterns — a very individual, competitive game — cuts out friendships.

In contrast, Group B was described as vague, caring, and helpful. The emphasis was on 'friendliness-related' dimensions. Once again, the 'charity workers' label appeared to shape many of the impressions, for example:

> Charity work is an extremely social activity - have to have good interpersonal skills — ability to look at things on a practical level.

Inconsistent labels/high comparative fit for friendliness

In the inconsistent labels condition, a number of participants appeared in their explanations to be trying to reconcile and explain what they saw as inconsistencies between group labels and group behaviours. For example, one participant reasoned that charity workers' occupation is to help and associate with people all the time — so in their leisure period they "pamper and keep to themselves". Another participant commented that:

> Perhaps these people are stressed with other people's problems and avoid people due to having a case load of problems. Aggressive because of the demands of their job.

Descriptions of Group B often focussed on trying to explain why chess players would be unintelligent and friendly. For example, it was reasoned that chess players generally have solitude; therefore given the chance they prefer to socialise with others. Likewise, it was suggested that their brilliant minds could impact on their forgetfulness due to "always thinking about new chess strategies".

Inconsistent labels/high comparative fit for intelligence

Again attempts were made to 'explain' the inconsistent behaviours presented. For example, in trying to explain unfriendly charity workers one participant wrote:

> People in Group A are nice all day at work — they probably feel the need to relieve frustration elsewhere.

Likewise, another participant explained friendly/unintelligent chess players in the following fashion:

> Seeing they are involved in a sport they are very competent at social interaction but tend to lack vast intelligence.

Another participant describing unintelligent chess players commented that "people who are good at some things often aren't good at others".

Overall, it appeared that to some extent, participants generated explanations or 'theories' that accounted for the differences between groups in terms of the group labels

they were presented with. In the inconsistent labels condition they appear to have attempted to reconcile the apparent inconsistencies to some extent. This may account for the lack of effects for label-type observed.

Discussion

In general our predictions were not supported in this experiment. Contrary to predictions no significant effect for label-type was found. Likewise there was no interaction between degree of comparative fit and normative fit.

One of the most interesting results obtained from this study was the lack of significant effects for label-type (i.e., normative fit). This was especially curious in light of the strong effects obtained for this variable in Experiment 2. It seems likely that this difference was due to a difference in experimental procedure: namely the instructions that participants were given in this experiment to "write a short explanation to account for the behaviours of the people in Group A and Group B". It is possible that these instructions activated 'theories' and other knowledge that made the observed differences between groups 'meaningful' ones — that is, theories that reconciled the apparent inconsistencies between group labels and group behaviours. The written descriptions suggest that participants were able make different traits fit with the categories charity worker and chess player by subtly changing the meaning of these categories.

Another difference between the current experiment and Experiment 2 was the use of the label charity workers rather than tour guides. It is possible that the fit (or lack thereof) may not have been as strong for this category and this may have influenced the lack of effects for label-type.

The positivity scores largely replicated the results found in Experiment 3. In the high comparative fit for friendliness condition, Group B were characterised much more positively than Group A. However, in the high comparative fit for intelligence condition, there was little difference in the positivity of the two groups.

General Discussion

Experiments 1, 2, 3 and 4 sought to address the first aim, and to test the first hypothesis, of the thesis. Experiments 1 and 3 sought to investigate the role of comparative fit in determining stereotype content. Experiments 2 and 4 investigated the role of both comparative and normative fit and predicted an interaction between these two variables in terms of stereotype content formation. We will first discuss the implications of Experiments 1 and 3, and the suggested role of comparative fit. We will then discuss the results of Experiments 2 and 4, and the implications regarding the role of normative fit, and the interaction between comparative and normative fit.

Experiments 1 and 3

Both these experiments produced a very similar pattern of results and provided partial support for our hypotheses. The results of both experiments demonstrated that in the condition with higher comparative fit for friendliness, participants differentiated between groups more in terms of the more comparatively fitting dimension (i.e., friendliness). Thus the stereotype content applied to groups A and B reflected those attributes (in this case friendliness) that maximised differences between groups (and in the case of Experiment 1 also minimised differences within groups). However, these results were not replicated for intelligence in the high comparative fit for intelligence condition. This was contrary to predictions and also contrary to results obtained by Ford and Stangor (1992). In terms of prediction 2, more stereotyping occurred in terms of a dimension when comparative fit was high for that dimension versus lower (however for intelligence this difference was only significant in Experiment 1). That is, there was more differentiation in terms of each dimension when it was more fitting.

Results with respect to prediction 2 support the idea that stereotype content will reflect differences in degree of comparative fit, with more comparatively fitting dimensions being more important in subsequent stereotypes. However, we also predicted that given two comparatively fitting dimensions, the more fitting one should prove to be more important in stereotypes formed. This was shown to be the case when friendliness was more fitting than intelligence but not in the reverse case. We have discussed above a

number of possible reasons for the lack of predicted effects (prediction 1) in the <u>high</u> <u>comparative fit for intelligence</u> condition. It appears that information about friendliness and intelligence presented together may have changed the interpretations of each dimension somewhat. This suggests that while there was no explicit normative fit in these studies, there may have been implicit normative fit. The written descriptions and checklist data in Experiment 3 suggested that subtly different impressions were formed of the groups in different conditions, which may have reflected expectations about what, for example, a highly intelligent but unfriendly group of people are like. Friendliness is possibly the dominant dimension in forming impressions and it may shape interpretations of the meaning of intelligence. In Experiment 3, participants characterised the highly friendly group as very positive and the highly unfriendly group as very negative. However, there was little difference in the perceived positivity of the highly intelligent versus the highly unintelligent group. Thus, it appears that intelligence figured less prominently in participants' impressions, and that even when large differences in intelligence were presented, they may not have had a large influence on participants' overall impressions of groups. Thus, for example, when Group B were presented as highly unintelligent but moderately friendly, it may have been the positive friendliness that shaped the overall impression, and minimised the negativity on the intelligence dimension (see Berndsen et al., 1998).

It is also possible that for social desirability reasons, our participants were less willing to make judgements of low intelligence, meaning differences in intelligence were minimised rather than accentuated. In this sample there may be cultural 'rules' against judging anyone to be 'dumb' (Leyens et al., 1994). In both experiments, posttest judgements of Group B's intelligence (in the high comparative fit for intelligence condition) were higher than what was presented at pretest suggesting that this dimension was minimised rather than accentuated. Indeed, differences in results obtained in the high comparative fit for intelligence condition between our experiments and those of Ford and Stangor (1992) may reflect a cultural difference between our participants (who were Australian) and the participants used in Ford and Stangor's study (who were

American). Cultural norms in Australia may place more importance on friendliness as a trait rather than intelligence. Likewise, friendliness may be seen as more of a volitional behaviour whereas intelligence is more innate; thus, friendliness may be perceived to be more diagnostic of what a group of people are really like.

Another problem in the current experiments (and in Ford and Stangor's studies) concerns the simultaneous manipulation of friendliness and intelligence in such a way that there is an inconsistency between values. That is, a negatively valued trait (e.g., unfriendliness) was always paired with a positively valued trait (e.g., intelligence). As discussed above, these two oppositely valued traits appear to have influenced the interpretation of each other. Likewise, the pairing of the two traits in this fashion meant that there was poor fit in these experiments between the division into groups and values. It may be preferable to have clear fit in terms of both attributes and values — this could be achieved by only manipulating one dimension rather than two.

In summary, Experiments 1 and 3 showed some evidence that a dimension that differentiates more between groups will prove to be more important in the stereotypes formed of those groups (compared to a less differentiating dimension) (prediction 1). In addition, they demonstrated that more stereotyping in terms of a dimension occurs when comparative fit is high for that dimension versus lower (prediction 2). Overall, the results of Experiments 1 and 3 point to possible problems inherent in the use of the intelligence dimension, especially in combination with the friendliness dimension. Manipulating comparative fit by considering the differences across the degree of comparative fit of these two dimensions may not be the most successful or straightforward method to use. Thus, in the following experiments (Experiments 5 and 6) only one dimension, friendliness, was used. Likewise, in the current studies the levels of comparative fit manipulated were medium versus high, meaning that there was always comparative fit for both dimensions but that it varied in degree. A stronger manipulation of this variable might involve comparing a high comparative fit condition with a no comparative fit condition, using only one dimension. In the next experiment, Experiment 5, this type of manipulation is employed.

Experiments 2 and 4

The results obtained in Experiments 2 and 4 were somewhat contradictory. In Experiment 2, as predicted, it was found that when group labels were consistent with differences between groups participants used those differences more in stereotyping those groups compared to when group labels were inconsistent with differences between groups. However, these results were not replicated in Experiment 4. In both experiments, a predicted interaction between comparative and normative fit was not found; however, this is likely to be partly due to the problems encountered in manipulating comparative fit which have been discussed above.

We have suggested above that the different results found in these two studies may be due to methodological differences. Firstly, different category labels were used in Experiment 4 with the label tour guide being replaced with charity worker — there may have been differences in the 'fit' between these two labels and the dimensions intelligence and friendliness. Secondly, participants in Experiment 4 were asked to write explanations to account for the behaviours of the two groups before rating the perceived intelligence and friendliness of those two groups. One possibility, consistent with the arguments of this thesis, is that asking participants to write an explanation for the behaviour of the two groups may have activated broader theories and knowledge about those groups and their behaviours. These theories, in turn, may have been consistent with the intergroup differences presented. For example, when faced with charity workers who are unfriendly, participants may have drawn upon knowledge that people in caring professions are often under a lot of stress which may result in unfriendly behaviour. Thus, in the inconsistent labels condition, participants may have drawn upon theories and knowledge that 'fitted' with the differences between groups, and therefore made use of these differences between groups when stereotyping. This suggests that the 'consistency' between, say, the category charity worker and the dimension friendliness is not fixed but 'theory-dependent'. Theory generation is explored further in the next experiment.

Other explanations for these results should also be considered. For example, the social cognition literature (reviewed in Chapter 3) suggests that we are more likely to remember stereotype-consistent information when cognitive load is high and stereotype-inconsistent information when cognitive load is low (e.g., Macrae et al., 1993; Stangor & Duan, 1991; cf Spears & Haslam, 1997). It could be argued that asking participants to think and write about the two groups gave them more time to recall information inconsistent with category labels. Fiske and Neuberg (1990) argue that as perceivers pay more attention they make more use of individuating versus categorical information in impression formation, and this could be argued to be happening in Experiment 4 where impressions are based more on 'data' than 'theory'. Likewise, asking participants to provide an explanation may have made them feel more accountable for the impressions they formed and there is evidence to suggest that accountability can lead people to pay more attention to inconsistent information (Tetlock, 1985; Tetlock & Boettger, 1989).

Stangor and Lange (1994) make a distinction between active and passive processing in social judgement. They argue that passive processing, which involves little conscious effort, usually leads to the assimilation of new information into an activated existing representation. On the other hand, active processing, which is a more controlled and conscious process, has different effects. In particular, active processing may lead perceivers to focus on expectancy-inconsistent information. Active processing occurs "when the perceiver consciously controls for the influence of activated information" (Stangor & Lange, 1994, p. 388). It could be argued that in Experiment 4, asking participants to write explanations for the behaviour of the two groups resulted in more active processing of the information which may have made participants focus more on inconsistent information. These ideas concerning the effects of attention, capacity and style of processing (active versus passive) are discussed further in Chapter 10.

In Experiment 4 participants generated explanations in all conditions. Therefore, it is difficult to fully assess the effects of these 'theories'. In the next experiment we attempted to manipulate theory generation such that some participants generated

theories and others did not. In addition, we sought to manipulate comparative fit in a stronger fashion based on the arguments outlined above.

Chapter 9

Experiment 5: The Effects of Comparative Fit, Normative Fit and Theory-Generation on Stereotype Content

This experiment considered the role of comparative fit, normative fit and background theories in producing stereotype content. It aimed to follow up some of the contradictory results found in the previous experiments. This experiment extended those previous experiments in a number of ways. We wished to manipulate comparative fit in a more straightforward and stronger fashion. This was done by employing <u>high</u> comparative fit versus <u>no</u> comparative fit conditions, rather than <u>higher</u> comparative fit versus <u>lower</u> comparative fit as in the previous experiments. In addition, we operationalised comparative fit in terms of only one attribute dimension, friendliness, rather than in terms of both friendliness and intelligence. In the high comparative fit condition, not only did the two groups differ from each other in terms of friendliness based on mean differences derived from pretest ratings of behaviours (as in the previous experiments), they also differed in terms of the <u>number</u> of friendly and unfriendly statements presented about each group. Thus, there were <u>more</u> friendly statements about one group and <u>more</u> unfriendly statements about the other group. In this sense, there was a correlation between groups and the dimension friendliness. Unlike the previous experiments, there was also a correlation between groups and 'value' with one group being described in more positive terms than the other group. In the no comparative fit condition there were equal numbers of friendly and unfriendly statements about each group and thus no correlation between groups and friendliness-related behaviours (or value). In previous studies (e.g., Oakes et al., 1991) comparative fit has been operationalised in terms of a correlation between group membership and expressed opinions. It was felt that this was a 'cleaner' and stronger operationalisation of comparative fit.

Normative fit was manipulated once again using group labels that were either consistent or inconsistent with the differences between groups. In this experiment we reverted to

the labels used in Experiment 2, namely 'chess players' and 'tour guides'. These labels appear to have good fit with the dimension friendliness. In addition, in this experiment we wished to test the idea, raised in Experiment 4, that asking participants to generate an explanation about the groups and group behaviours they were judging might activate broader knowledge and theories about these groups and therefore influence the perceived consistency between group labels and behaviours, and subsequent levels of stereotyping. Therefore, we introduced a 'theory-generation' variable. Participants in some conditions were given the opportunity to generate theories explaining the differences they had observed between the two groups (consistent with Experiment 4). Participants in other conditions were not given the opportunity to generate theories (consistent with Experiment 2). In Experiment 4 there was some evidence that giving participants the opportunity to come up with explanations for the behaviours of the two groups may have operated to activate their background theories and knowledge and allowed them to 'find' a fit between the presented behaviours and the category labels. By introducing the 'theory-generation' variable we hoped to demonstrate that when participants were given the opportunity to produce an explanation for the apparent inconsistencies between group labels and data they should find it meaningful to differentiate between groups in terms of the observed behavioural differences, even though group labels were inconsistent with those differences. We hoped to show that the act of explaining the relationship between group labels and group behaviours could actually alter the perceived 'consistency' between labels and behaviours.

As outlined below, there were also some changes to the dependent variables employed in this experiment compared to the previous experiments.

This experiment aimed to show that more stereotyping occurs in terms of a given dimension (in this case friendliness) when comparative fit is high for that dimension compared to when there is no comparative fit for that dimension. However, in addition to traits differentiating between groups they must also be traits that are meaningful for differentiation between the groups. That is, there must not only be comparative fit between groups and the but also normative fit. More stereotyping should occur when

comparative and normative fit are operating together; that is, comparative differences exist between groups and these differences are in a normative direction. Therefore, if there are differences between groups but these are not in a normative direction, less stereotyping should occur in terms of the differentiating dimensions. Likewise, if there are groups with normatively meaningful labels but these groups do not actually differ from each other (no comparative fit), there should also be less stereotyping.

An additional aim of the experiment was to illustrate that what is normatively fitting is in no sense 'fixed'. In Experiment 2 we found evidence that more stereotyping occurs when groups labels are consistent with intergroup differences and less stereotyping occurs when group labels are inconsistent with intergroup differences. It could be argued that participants have fixed stereotypes or schemas about certain social groups. When they are given a label, such as tour guides, and presented with traits consistent with that group, they may merely call upon the representation they have of tour guides and apply the content that is associated with that stereotype. Likewise, when a stimulus trait does not <u>match</u> the category, that category is not employed (e.g., Fiske & Neuberg, 1990). This experiment aimed to show, instead, that people have broad background knowledge about social groups and that they may call upon different parts of that knowledge when trying to make sense of stimulus information. The inclusion of the theory-generation variable sought to test the second hypothesis (H2) of the thesis namely:

> There is no fixed or absolute consistency between a given stimulus attribute and a given social category. The perceived consistency between an attribute and a category can vary with the background knowledge or theory that is brought to bear upon that judgement ...

Therefore, for example, while people may typically think of tour guides as 'friendly', they could conceivably find an explanation within their background knowledge for tour guides acting in a relatively unfriendly fashion. Therefore, conceivably the trait friendliness could be both consistent <u>or</u> inconsistent with the category 'tour guides' depending on the theory employed to explain the relationship between the category and that trait.

Overview of the experiment

The experiment presented participants with behaviours about two groups of people, Group A and Group B. These behaviours were presented such that either Group A were more friendly than Group B, or Group A and Group B did not differ in terms of friendliness. In addition, participants were given labels for the two groups that were either consistent with intergroup differences or inconsistent. They were either told that Group A were 'tour guides' and Group B were 'chess players' or vice versa. Finally, half the participants were instructed to produce an explanation for the behaviours of the people in the two groups and the other half were not given this instruction.

Thus there were two independent variables in the study: fit (high/no normative/no comparative), and theory generation (no theory/theory). The three levels of fit were comprised as follows: high fit held when there were differences between groups in terms of friendliness (i.e., there was high comparative fit) and group labels were consistent with the direction of those differences (good normative fit); no normative fit held when there were differences between groups in terms of friendliness (comparative fit) and group labels were inconsistent with those differences (no normative fit); no comparative fit held when there were no differences between groups in terms of friendliness (no comparative fit) and the groups were given normative labels.

The levels of fit employed require some explanation. The design did not fully cross comparative and normative fit such that there were high and no comparative fit conditions, and good and poor normative fit conditions. This is because it makes little sense to talk of normative fit when there is no comparative fit. When there are no differences between groups we cannot say that group labels are either consistent or inconsistent with these differences. Normative fit is always connected with the direction and nature of differences that exist between groups. Thus while we have given the groups labels in the no comparative fit condition, these labels were not related to differences between groups. The labels in the no comparative fit condition are more properly referred to as 'normative labels' (that is labels with some normative meaning) rather than as consistent or inconsistent labels.

The design of the study is illustrated in Table 9.1 below:

Table 9.1

Design: Experiment 5

	NO THEORY	THEORY
HIGH FIT (high comparative fit & consistent labels)	✓	✓
NO NORMATIVE FIT (high comparative fit & inconsistent labels)	✓	✓
NO COMPARATIVE FIT (no comparative fit & normative labels)	✓	✓

Predictions

This experiment sought to test both the first and second hypotheses of the thesis as outlined in Chapter 6. Broadly speaking, the first prediction was that stereotyping (in terms of differentiation on the dimension friendliness) should occur when both comparative and normative fit are operating together. That is, there should be more stereotyping, in terms of differentiation between groups, in the <u>high fit</u> (comparative fit/consistent labels) condition compared to the other two conditions. More specifically it was predicted that:

> 1. Given no theory generation, there should be more stereotyping in the <u>high fit</u> condition versus both the <u>no normative fit</u> and <u>no comparative fit</u> conditions. There should be no differences in stereotyping between the <u>no normative fit</u> and <u>no comparative fit</u> conditions.

In Chapter 6 we discussed an interaction between comparative and normative fit such that the effect of comparative fit should be dependent on the level of normative fit (and vice versa). While the design of this experiment does not allow for an interaction between these variables to be found statistically, theoretically the prediction is the same. That is, given the same level of comparative fit (as in the high fit and no normative fit conditions) there should be differences in stereotyping across normative fit (i.e., whether group labels are consistent or inconsistent). It is not possible to hold normative

fit constant in this design (because of the no comparative fit condition). However, we are predicting that given the same group labels (as in the high fit and no comparative fit conditions) there should be differences in stereotyping across levels of comparative fit.

Other predictions concerned the theory-generation condition. We expected to find different effects for fit across theory generation conditions (similar to what was found in Experiments 2 and 4 respectively). Given theory-generation, we once again expected stereotyping to occur when both comparative and normative fit were operating together. This held in the high fit condition. However, given the generation of a theory which explains or accounts for the differences between groups, we also expected stereotyping (in terms of intergroup differentiation) to occur in the no normative fit condition. This is because we expected that those participants who had the opportunity to explain the relationship between categories and behaviours may activate theories and knowledge that allow them to reconcile the apparent inconsistency and therefore make use of the differences between groups when forming impressions of them. Once again, we predicted little stereotyping in the no comparative fit condition. As argued previously, comparative fit and normative fit operate together. Given no comparative fit there can be no normative fit. Specifically, it was predicted that:

> 2. Given theory generation, there should be more stereotyping in the high fit condition and the no normative fit condition versus the no comparative fit condition. There should be no differences in stereotyping between the high fit and no normative fit conditions.

Method

Participants and design

Participants were 76 students from senior secondary colleges in the Australian Capital Territory, with 84% females and an average age of 17.1 years. All students participated on a voluntary basis as part of a normal class.

As outlined above the design manipulated two independent variables, fit (high/no normative/no comparative) and theory-generation (no theory/theory) in a 3 x 2 between subjects design. Participants were randomly allocated to conditions.

Stimulus materials and procedure

Initially, participants were given some basic information about the study, and were asked to sign a consent form if they were willing to participate. The experimenter then gave participants the following information as an introduction to the study:

> I'm going to show you a video with statements describing behaviours performed by members of two groups. First I want to give you a little background information concerning where I got this information from. This study is following up a previous study that I did. In <u>that</u> study I was investigating the personalities and behaviours of people who belong to different types of leisure groups. The two groups I looked at were chess players from a local chess club, and volunteer tour guides. I got people from these two groups to provide me with, among other things, statements that were descriptive of a typical sort of behaviour they might perform or a typical behaviour they had performed over the past month. Their responses were totally anonymous.

> In this present study I'm interested in investigating <u>your</u> perceptions of these two leisure groups and of the personalities of the people in these two groups. I'm going to show you a video of the statements I obtained from different members of these two groups. For convenience, in the video I've labelled the two groups with the letters A and B. However the statements about Group A members were obtained from the tour guides (chess players) while the statements about Group B were obtained from the chess players (tour guides). Now I'm going to play the video and I want you to simply read each statement carefully — once the video is finished there will be a questionnaire for you to complete where I'll ask you about your perceptions of the two groups.

All subject were given identical instructions, except those in the <u>no normative fit</u> condition were told that Group A were chess players and Group B were tour guides. In addition, participants were shown an overhead while being given instructions, that said:

GROUP A = TOUR GUIDES

GROUP B = CHESS PLAYERS

In the <u>no normative fit</u> condition these labels were reversed.

It should be noted that the 'cover story' used in this experiment was much more detailed and elaborate than those employed in the previous experiments. It was hoped that these instructions would be more believable for participants and would engage them more with the task.

Participants then viewed a video which presented a number of behavioural statements about the two groups of people, Group A and Group B. There were 18 statements about each group: 12 pertaining to friendliness and 6 neutral statements. The statements were largely taken from those used previously in Experiment 1, 2, 3 and 4 and those used by Ford and Stangor (1992); however some changes were made to make them more suitable for the slightly younger participants used in this study. Statements were chosen on the basis of pretest ratings of their perceived friendliness performed by 10 independent raters. These ratings were done on 5-point scales ranging from 1 'highly unfriendly' to 5 'highly friendly'. There were two videos used. In the first video (high comparative fit video), statements were selected so that Group A were described as more friendly than Group B. Group A were described in terms of 9 friendly (e.g., A member of Group A regularly hosts dinner parties), 3 unfriendly (eg. A member of Group A is often abrupt) and 6 neutral statements (e.g., A member of Group A eats three meals a day). Group B were described in terms of 9 unfriendly, 3 friendly and 6 neutral statements[17]. That is, there was a correlation between the dimension 'friendliness' and group membership, although not a perfect one[18]. On the basis of pretest ratings, the statements describing Group A were significantly more friendly than those describing Group B ($\underline{M}$'s=3.80 vs. 2.37), t(9)=14.56, p<.001, two-tailed. The variability of the mean ratings for friendliness-related behaviours did not differ across groups ($\underline{SD}$'s=1.19 versus 1.21), Cochran's $\underline{C}$(11,2)=.51, $\underline{p}$>.05. This video was used as the stimulus in both the high fit and no normative fit conditions.

In the second video (no comparative fit video), statements were selected so that Group A and Group B did not differ in terms of friendliness. There were 6 friendly, 6 unfriendly and 6 neutral statements describing each group. The 6 friendly statements about Group A were randomly selected from the 9 friendly statements used in the first video. The 6 unfriendly statements included the 3 unfriendly statements previously used

[17] The statements used to describe each group appear in Appendix A.
[18] Feedback from pilot studies using a perfect correlation between friendliness and groups (that is Group A described by 12 friendly statements and Group B by 12 unfriendly statements) indicated that subjects found this situation more transparent and less believable than a mixture of friendly and unfriendly statements to describe each group.

to describe Group A in the first video plus 3 randomly chosen from the unfriendly statements used to describe Group B in the previous video. The 6 neutral statements were the same as previously used. Likewise, the 6 unfriendly statements about Group B were randomly selected from the 9 unfriendly statements previously used. The 6 friendly statements used included the 3 friendly statements previously used to describe Group B plus 3 statements randomly chosen from the friendly statements used to describe Group A in the first video. The 6 neutral statements were the same as previously used[19]. Thus, there was no correlation between the dimension 'friendliness' and group membership. On the basis of pretest ratings, the statements describing Group A were not significantly different in terms of friendliness than those describing Group B ($\underline{M}$'s=3.10 vs. 3.07), t(9)=.56, ns. The variability of the mean ratings for friendliness-related behaviours did not differ across groups ($\underline{SD}$'s=1.41 versus 1.41), Cochran's $\underline{C}(11,2) = .50$, p>.05. Likewise, the difference between Group A and Group B in terms of friendliness for the high comparative fit video was significantly greater than the difference between Group A and Group B for the no comparative fit video, $\underline{t}(9)=6.72$, p<.001, two-tailed. This video was used as the stimulus in the no comparative fit condition. We did not endeavour to vary the level of variability of friendliness behaviours across the two videos as in Experiments 1 and 2 . Instead we sought to keep variability within groups fairly constant and vary only differences between groups (as in Experiments 3 and 4, and Ford & Stangor, 1992, Experiment 1). Thus the variability of behaviours used in the no comparative fit video did not significantly differ for that used in the comparative fit video for Group A, Cochran's $\underline{C}(11,2) = .59$, p>.05, or Group B , Cochran's $\underline{C}(11,2)=.58$, p>.05.

Statements, on both videos, were presented to participants one at a time for approximately 5 seconds each. They were presented in a random order. After viewing the video, all participants were given a questionnaire to complete and were initially asked to indicate their age and gender. Then all participants were asked to indicate if

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[19] The statements used to describe each group appear in Appendix A.

they had been told which groups of people had been represented by groups A and B, and if so, to indicate what the two groups were. This served as a manipulation check.

Next, participants in the theory-generation condition had the following instructions read aloud to them by the experimenter while they also read through them:

> The first task I want you to do is a problem-solving type task. I want you to think about the two groups of people you have just read about, and to think about the types of groups that they belong to. Your task is to try to produce an explanation that will account for the behaviours of the people in the two groups. I want you to take into account not only the behaviours you have read about the two groups but also the types of people that these statements were obtained from. Why do you think these people might behave in this fashion? I want you to write a short explanation for the behaviours of the people in these two groups.

Participants in the no theory-generation condition did not receive these instructions.

Following this, participants in all conditions completed a number of measures. Finally, the purpose of the study was discussed with participants and they were thanked for their participation.

Dependent measures

The main dependent measure was the same as that employed previously. Participants completed 9-point trait rating scales for friendliness for groups A and B as described in the previous experiments. This measure allowed us to assess perceived <u>differences</u> between groups A and B in terms of friendliness. The other side of difference is <u>similarity</u>, and so participants were also asked to rate on a 9-point scale how similar they thought Group A and Group B were to each other (1=not at all similar, 9=very similar). We would expect perceived similarity between the groups to decrease with increases in perceived differences between groups.

In addition, participants were asked to mark on a Katz-Braly type checklist those words/traits they thought Group A and Group B most differed on by underlining those words. Traits included in the checklist were ones which were thought to be especially relevant to the dimension friendliness. There were 30 traits in the checklist[20].

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[20] See Appendix B for a full list of the traits used.

Participants were then asked to mark with a letter 'A' the "3 words which you think best represent something that Group A has more of than Group B" and to mark with the letter 'B' the "3 words which you think best represent something that Group B has more of than Group A".

Other measures

To test whether generating a theory influenced the perceived consistency between the categories chess player and tour guide, and the dimension friendliness, all participants were asked to rate how they thought 'most people in general' would rate tour guides and chess players in terms of friendliness on a 9-point scale. Finally, all participants were asked to rate on a 9-point scale how interested they were in the study (1 to 9 from 'not at all' to 'very'). It was thought that if participants were paying more attention or more actively processing information in the theory-generation condition this might be reflected in this measure.

Results

Manipulation checks and cell sizes

Firstly, all participants who could not correctly identify which groups were represented by Group A and Group B were excluded from further analyses (11 in total). Likewise, participants in the theory-generation condition who failed to produce a theory were excluded (1 in total). Unfortunately, this resulted in small cell sizes in some conditions. The cell sizes per condition are presented in Table 9.2 below. These hold for data throughout this section unless otherwise stated. The reduced sample consisted of 83% females and had an average age of 17.2 years.

Table 9.2

Participants per cell: Experiment 5

Fit:	High		No Normative		No Comparative	
Theory:	No	Theory	No	Theory	No	Theory
N:	10	12	8	8	12	14

Overview of analyses

Planned orthogonal contrasts were used to test our predictions. Details of the overall ANOVA have also been included for completeness. Unless stated otherwise, all contrasts are one-tailed.

Trait ratings

The first dependent measure was designed to assess the level of stereotyping in terms of the trait friendliness. Stereotyping is conceptualised as the extent to which participants differentiate between the two groups (A and B) in terms of friendliness. Therefore, difference scores were calculated for the difference between ratings of Group A and Group B. This was done by subtracting scores for Group B from scores for Group A for each participant. Table 9.3 below contains the mean ratings given to both Group A and Group B, and the mean differences between groups A and B.

A 3 (fit: high/no normative/no comparative) by 2 (theory-generation: no theory/theory) ANOVA performed on the difference scores revealed a significant main effect for fit, $F(2,58)=3.54$, $p<.05$. This is illustrated in Figure 9.1 below.

It can be seen from that figure that in general more stereotyping occurred in the high fit condition compared to the other two levels of fit. Specific predictions were tested in terms of planned contrasts. It appeared that the assumption of homogeneity of variance may have been violated for the overall ANOVA, Cochran's $C(10,6)=.39$, $p<.03$. Therefore, contrasts were carried out using the separate variance estimate. The first two contrasts tested prediction 1. They looked at differences across fit in the no theory-generation condition. The first of these compared high fit with no normative and no comparative fit. It revealed that participants differentiated between groups in terms of friendliness significantly more in the high fit condition compared to when there was no normative fit or no comparative fit, $t(14)=3.16$, $p<.005$. The second contrast compared the no normative fit and no comparative fit conditions and found no significant difference between them, $t(15.1)=.12$, $p=.45$. Therefore, both contrasts supported prediction 1.

The next two contrasts tested prediction 2 and looked at differences across levels of fit in the theory-generation condition. The third contrast compared high fit and no normative fit conditions with the no comparative fit condition. Contrary to predictions, this contrast was not significant, $t(29.6)=.1.22$, $p=.12$. The fourth contrast compared high fit with no normative fit in the theory-generation condition. This was not significant, $t(19.9)=.97$, $p=.17$. While this supported prediction 2, the previous contrast did not.

Table 9.3

Means for Group A and Group B for trait rating and difference scores:

Experiment 5

Fit:	High			No Normative			No Comparative		
Group:	A	B	Diff	A	B	Diff	A	B	Diff
NO THEORY									
Trait ratings	7.88 (0.99)	4.13 (1.81)	3.75 (1.91)	6.75 (1.60)	5.67 (1.88)	1.08 (3.00)	6.20 (1.23)	5.00 (0.82)	1.20 (1.23)
THEORY									
Trait ratings	7.88 (1.25)	4.75 (1.28)	3.13 (2.30)	6.79 (1.85)	4.93 (2.59)	1.86 (3.82)	6.83 (1.19)	5.42 (1.51)	1.42 (2.07)

Note: Scores on the trait rating measure can range between 1 and 9, scores on diff can range between –8 and +8. Standard deviations appear in brackets.
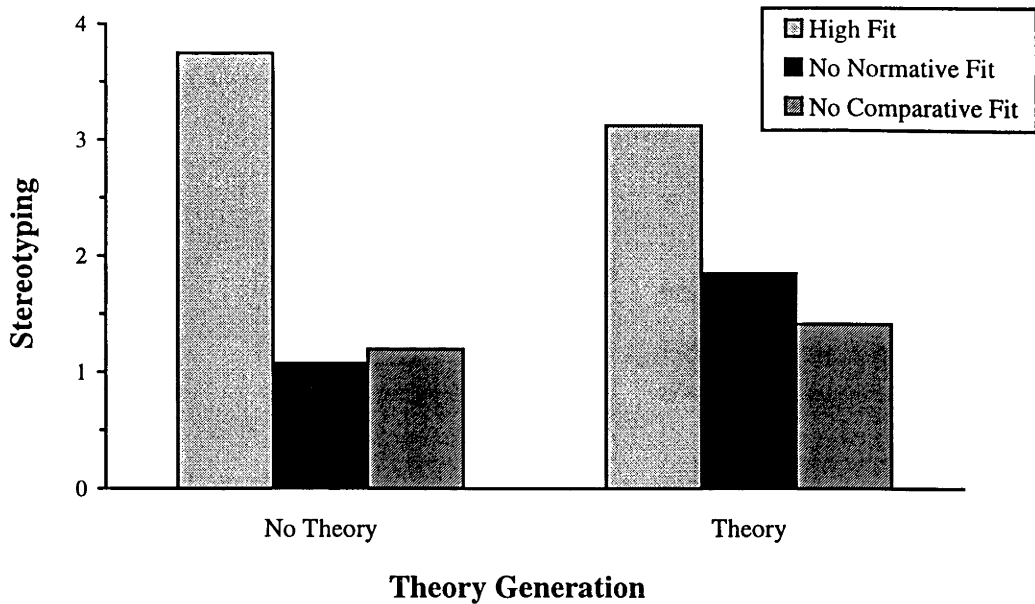
Figure 9.1 Main effect for fit for trait rating difference scores: Experiment 5

Similarity

The second dependent measure, the similarity measure, measured the extent to which the two groups were perceived to be similar to each other and can be considered another measure of level of stereotyping with higher ratings of similarity indicating less stereotyping. Table 9.4 below contains the mean similarity ratings given across conditions:

Table 9.4

Means for similarity measure across conditions: Experiment 5

Fit:	High	No Normative	No Comparative
THEORY			
No theory	3.63 (1.30)	5.17 (2.12)	5.40 (1.71)
Theory	5.12 (1.46)	4.07 (1.86)*	5.18 (0.89)*

Note: Similarity scores can range from +1 to +9 with a higher similarity score indicating less stereotyping. Standard deviations appear in brackets.

* 1 case missing from this cell.

The overall 3 x 2 ANOVA revealed a marginally significant theory x fit interaction, $F(2,57)=2.59$, $p<.09$. This is illustrated below in Figure 9.2:
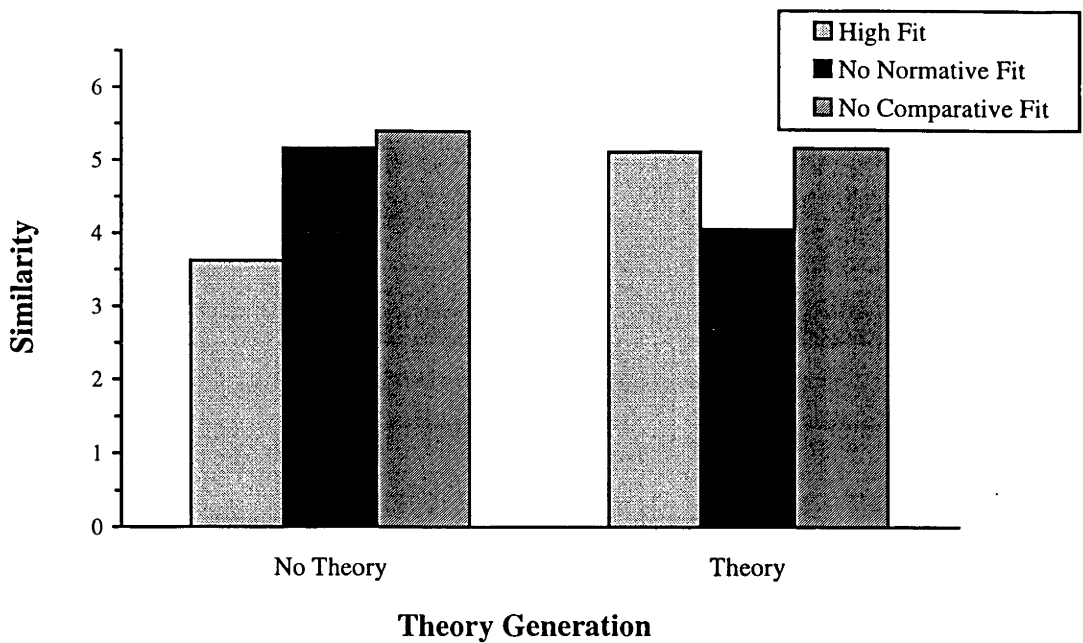
Figure 9.2 Interaction between fit and theory-generation for similarity scores:
Experiment 5

It can be seem from above that in the no theory-generation condition, those in the high
fit condition stereotyped more (i.e., lower similarity scores) than those in the other two
conditions. However, in the theory-generation condition, participants in the no
normative fit condition appeared to stereotype more (i.e., lower similarity) than those in
the other two conditions. Again predictions were tested in terms of planned contrasts.
The assumption of homogeneity of variance was not violated for this variable,
Cochran's $\underline{C}(10,6)=.25$, $\underline{p}=.74$; therefore, contrasts were carried out using the mean
square error from the overall ANOVA. With no theory-generation, a significant
difference was found between the high fit ($\underline{M}=3.63$) versus the no normative fit and no
comparative fit conditions (combined $\underline{M}=5.29$), $\underline{t}(57)=2.24$, $\underline{p}<.02$. In addition, there
was no difference in ratings of similarity between the no normative fit ($\underline{M}=5.17$) and no
comparative fit conditions ($\underline{M}=5.40$), $\underline{t}(57)=.30$, $\underline{p}=.38$. Again these results support
prediction 1.

For the theory-generation condition, once again no difference was found between the
high fit and no normative fit (combined $\underline{M}=4.60$) conditions compared to the no
comparative fit condition ($\underline{M}=5.18$), $\underline{t}(57)=.87$, $\underline{p}=.19$. Likewise, there was no

significant difference between the <u>high fit</u> ($\underline{M}$ = 5.12) and <u>no normative fit</u> conditions ($\underline{M}$=4.07), $\underline{t}$(57) = 1.32, $\underline{p}$=.09.

Checklist ratings

Participants were asked to choose from a list of adjectives the three they thought best differentiated Group A from Group B and the three they thought best differentiated Group B from Group A. Table 9.5 below presents the percentage of participants who chose traits characterising Group A and Group B by condition.

Table 9.5

<u>**Percentage of participants choosing each adjective across all conditions:**</u>

<u>**Experiment 5**</u>

Fit:	High		No Normative		No Comparative	
Theory:	No	Theory	No	Theory	No	Theory
N:	8	7	12	14	8	12
Group A						
Friendly	63%	71%	42%	50%	50%	50%
Talkative	38%	–	–	29%	50%	69%
Sensitive	25%	–	42%	–	25%	–
Aggressive	–	43%	–	–	–	–
Courteous	38%	–	–	29%	–	–
Pleasure-loving	38%	–	–	–	25%	–
Reserved	–	–	25%	36%	–	–
Gregarious	–	–	–	–	–	33%
Group B						
Quiet	75%	–	–	–	75%	42%
Rude	63%	–	–	43%	–	–
Unfriendly	50%	43%	–	43%	–	–
Talkative	–	–	50%	–	–	–
Sensitive	–	43%	–	–	–	–
Reserved	38%	–	–	–	–	42%
Friendly	–	–	33%	–	–	–

<u>Note</u>: Because of small cell sizes only those traits marked by at least 30% of participants in at least one condition have been included, - = <30%.

An analysis of this data was carried out using a similar method to Haslam, et al. (1992; see also Experiments 3 and 4). Five independent participants rated each word in the checklist as either consistent with the trait 'friendliness', inconsistent with friendliness or irrelevant to this trait. Where at least four of these raters agreed the trait was deemed to be either consistent or inconsistent with friendliness, or otherwise it was deemed to be ambiguous. A 'composite friendliness' score was calculated for the three traits assigned by each subject to each group. A +1 was scored for a friendliness-consistent trait, -1 for an friendliness-inconsistent trait and 0 for an ambiguous trait (each score had a value between -3 and +3). The mean composite friendliness scores for Group A and Group B across conditions appear in Table 9.6 below:

Table 9.6

Mean composite friendliness scores from checklist data: Experiment 5

Fit:	High		No Normative		No Comparative	
Theory:	No	Theory	No	Theory	No	Theory
Group A	2.43*	.86*	.92	1.36	1.44*	1.91*
	(.79)	(2.19)	(1.83)	(1.74)	(1.33)	(1.58)
Group B	-1.43*	-.71*	.75	-.79	-.11*	-.36*
	(.98)	(1.70)	(2.09)	(2.19)	(1.36)	(1.12)

Note: a positive score means consistent with friendliness, a negative score means inconsistent with friendliness; scores can range from –3 to +3.

* one case missing data in these cells.

Across almost all conditions participants tended to characterise Group A in terms of friendliness-consistent traits and Group B in terms of friendliness-inconsistent traits. This was reflected in the results of a 3 (fit: high/no normative/no comparative) x 2 (theory-generation: no theory/theory) by 2 (group: A/B) ANOVA with a repeated measure on the last factor which revealed a significant main effect for group, $F(1,54)=21.53$, $p<.001$. No other significant effects were found. It should be noted that in the no theory-generation / no normative fit condition, however, groups A and B were characterised almost identically (M's = .92, .75 respectively). The highest friendliness-consistent characterisation for Group A occurred in the high fit condition when no

theory was generated. Likewise, in this condition there was least friendliness-consistent characterisation of Group B. This is in line with the results found on the other dependent measures

Summary of results for main dependent measures

Overall, support for the predictions was mixed. Prediction 1 was supported across both main dependent measures. With no theory generated, participants stereotyped <u>more</u> when there was both comparative fit <u>and</u> consistent labels, compared to when either one of these conditions held. Results when the theory generation variable was operating were more complex. Firstly, the operation of this variable seemed to somewhat reduce levels of stereotyping in the <u>high fit</u> condition, which was unexpected. In addition, generating a theory did not significantly increase levels of stereotyping in the <u>no normative fit</u> condition. No differences across levels of fit were found in the <u>theory-generation</u> condition. In order to investigate these results further we performed an analysis of the types of theories generated by participants across these two conditions.

Types of theories generated

A content analysis of the types of theories generated in the <u>high fit</u> and <u>no normative fit</u> conditions was performed. As we did not expect theory-generation to have an effect in the no comparative fit condition, these theories were not analysed. The initial content analysis revealed the theories generated could be categorized as 'group-related', 'individual' and 'descriptive'. Coders were given the following definitions for types of theories: a 'group-related' theory is one that "explains the behaviours in terms of group membership", an 'individual' theory is one in which "behaviours are not related to group membership, (but) explained in terms of individual personalities, or personality-type theories", a 'descriptive' theory is one that "merely describes behaviours performed by Group A and Group B without explaining them". Ratings done by the experimenter and an independent coder both blind to condition had an agreement rate of 86%. Disagreements were decided by the experimenter.

An example of a 'individual' theory (produced in the high fit condition) was:

Obviously the people in the two different groups were all individuals therefore behaving in their own individual ways.

An example of a 'group-related' theory (produced in the no normative fit condition) was:

Tour guides talk to people all day if tour guiding and don't look for interaction with other people out of work. A person who is a volunteer tour guide probably doesn't have much trouble feeling comfortable around other people but he/she probably doesn't care to (sic) much about other people and other people's feelings. A chess club member is likely to be 'geekish' and 'intellectual' and probably won't fit in well to many other groups, because of this he/she tries to be nice to other people to make more friends.

A example of a 'descriptive' theory (produced in the high fit condition) was:

Group B were not very social and sort of keep to themselfs (sic) and close friends. Group A were friendly and made new friends when they could.

Table 9.7 below shows the number of each type of theory produced in the high fit and no normative fit conditions.

Table 9.7

Types of theories generated: Experiment 5

Theory Type:	Group	Individual	Descriptive	Total
FIT				
High Fit	2	2	4	8
No Normative	6	6	2	14

A comparison of mean ratings of difference scores, similarity scores and composite friendliness scores for those participants using a 'group-related' theory compared to participants using either an 'individual or descriptive' theory revealed some differences, as presented in Table 9.8 below:

Table 9.8

<u>Mean trait rating difference scores, similarity scores and composite friendliness</u>

<u>scores by theory type: Experiment 5</u>

Fit:	High		No Normative	
Theory Type:	**Group**	**Individ. + Descriptive**	**Group**	**Individ. + Descriptive**
Trait rating diff.	5.50	2.33	4.17	.13
	(2.12)	(1.86)	(3.13)	(3.48)
Similarity	5.00	5.17	3.17	4.75
	(2.83)	(1.17)	(1.94)	(1.58)
Comp. Friend A	-2.00	2.00	2.33	.63
	(1.41)	(1.00)	(1.21)	(1.77)
Comp. Friend B	1.00	-1.40	-2.17	.25
	(.00)	(1.52)	(1.17)	(2.25)

In the <u>high fit</u> condition, although cell sizes are very small, there is some indication that participants who generated a group-based theory tended to stereotype more than those who generated either individual or descriptive theories. In the <u>no normative fit</u> condition, an inspection of the means suggests that participants who produced 'group-based' theories were more likely to make use of the comparative differences presented when stereotyping the groups. That is, they produced 'theories' that explained why chess players would be more friendly than tour guides. It can be that seen participants who produced individual or descriptive theories differentiated between the groups in terms of friendliness much less, and saw the groups as more similar to each other. Likewise, they characterised Group A less in terms of friendliness-consistent traits and Group B more in terms of friendliness-consistent traits.

Independent two-tailed t-tests showed that within the <u>no normative fit</u> condition, participants generating a group-related theory stereotyped <u>more</u> compared to participants who generated other types of theories for the trait rating difference measure, $t(12)=2.24$, $p<.05$. Likewise, they characterised Group A significantly <u>more</u> in terms of friendliness-consistent traits, $t(12)=2.03$, $p<.07$, and Group B significantly <u>less</u> in terms

of friendliness-consistent traits, $\underline{t}(12)=2.38$, $\underline{p}<.04$. Differences across similarity ratings were not significant , $\underline{t}(12)=1.68$, $\underline{p}=.12$.

Other measures

All participants were asked how they thought 'most people in general' would rate tour guides and chess players in terms of friendliness. This measure was designed to assess how consistent participants believed the trait friendliness to be with the two groups. The means for this measure across conditions appear in Table 9.9 below:

Table 9.9

Friendliness ratings for tour guides and chess players: Experiment 5

Fit:	High		No Normative		No Comparative	
Theory:	No	Theory	No	Theory	No	Theory
Tour Guides	7.25	8.00	5.83	7.43	6.90	7.42
	(1.04)	(1.31)	(2.29)	(1.51)	(1.29)	(1.00)
Chess Players	4.63	4.75	5.08	3.86	4.70	4.42
	(2.07)	(1.83)	(1.78)	(1.51)	(1.57)	(1.68)

<u>Note</u>: scores can range from 1 to 9. Standard deviations appear in brackets.

Friendliness ratings for tour guides and chess players were analysed in a 3 (fit: high/no normative/no comparative) x 2 (theory: no theory/theory) x 2 (group: tour/chess ANOVA with a repeated measure on the last factor. This yielded a significant main effect for group, $\underline{F}(1,58)=62.07$, $\underline{p}<.001$, which was qualified by a significant group by theory interaction, $\underline{F}(1,58)=4.72$, $\underline{p}<.05$. Interestingly, participants thoughts 'others' would differentiate between tour guides and chess players in terms of friendliness <u>more</u> in the theory-generation condition compared to the no theory-generation condition.

Mean ratings of interest for all conditions are presented in Table 9.10 below. A 3 (fit: high/no normative/no comparative) x 2 (theory: no theory/theory) ANOVA revealed a significant main effect for fit, $\underline{F}(2,58)=3.24$, $\underline{p}<.05$, indicating that participants found the task most interesting in the no comparative fit condition.

fit variable in this condition (consistent with the results of Experiment 4). We expected that generating a theory would have little effect on the levels of stereotyping in the high fit and no comparative fit conditions, but would increase levels of stereotyping in the no normative fit condition towards that of the high fit condition. This was because we expected the act of generating a theory to activate knowledge that allowed participants to reconcile the apparent inconsistencies between group labels and behaviours. While no significant differences in level of stereotyping were found between high fit and no normative fit conditions given theory-generation, an inspection of the means suggests that this was due to both a small increase in level of stereotyping in the no normative fit condition and a decrease in stereotyping in the high fit condition. Likewise, neither of these conditions demonstrated significantly more stereotyping than the no comparative fit condition. The implications of the results with respect to both predictions are discussed in more detail below.

Overall there is good evidence that stereotyping occurs when both comparative fit and normative fit are operating together. With respect to the first hypothesis of the thesis, there is evidence that stereotype content reflects differences between groups that are in a direction that is meaningful in terms of our background knowledge about those groups and the dimension of comparison. Differences between groups that are not in a meaningful direction (as in the no normative fit condition) produce much less stereotyping. Thus, it cannot be argued that when presented with inconsistent information we accommodate our categories to fit that information (or assimilate that information into our existing categories). Likewise, when presented with category labels (which presumably cue expectations) but with no differences between groups, information is not assimilated to fit with our expectations. Thus, stereotype content does not merely reproduce differences between groups, or pre-existing stereotypes based on group labels, but rather reflects meaningful differences between groups.

Thus it can be argued that the influence of comparative fit depends on the level of normative fit. Given the same level of comparative fit (as in the high and no normative fit conditions) stereotyping varied across normative fit (whether labels were consistent

or inconsistent). Likewise, given the same normative group labels (high fit and no comparative fit conditions) levels of stereotyping varied across comparative fit. Therefore, it appears that the effects of both comparative fit and normative fit in determining stereotype content depend upon the levels of each other.

It should be noted that in the no normative fit and no comparative fit conditions, participants still differentiated between groups to a small degree. It is interesting to surmise why participants differentiated between groups at all in the no comparative fit condition when no <u>real</u> differences were present. This situation may be similar to an illusory correlation-type experiment where participants are motivated to differentiate between groups and attempt to do so on the basis of the only meaningful information available, namely the group labels (see Berndsen, 1997; McGarty & de la Haye, 1997; McGarty et al., 1993).

The effects found for fit were somewhat modified by the theory-generation variable. In general terms, it appeared that generating a theory produced <u>less</u> stereotyping under conditions of <u>high fit</u>. Somewhat surprisingly, it appeared that <u>less</u> stereotyping occurred when participants generated a theory in this condition compared to when they did not produce a theory. This may be due to uncertainty being introduced into the task by asking participants to 'think' more about they are doing. Likewise, giving participants the opportunity to think may have alerted them to cultural norms against stereotyping, and therefore they may have resisted doing so (see Leyens et al., 1994). This may also be because when participants think about the task they engage in more active processing and this may lead them to not apply an activated category (Stangor & Lange, 1994). However, scores on the measure of interest in the task suggested that participants found the task no more engaging when they were asked to generate a theory. A content analysis of the types of theories produced in the high fit condition indicated they were chiefly individualistic or descriptive which may have mitigated against differentiating between groups.

It was expected that where there was <u>no normative fit</u> (i.e., inconsistent labels paired with comparative differences between groups), generating a theory that explained the observed differences between groups should produce stereotyping in terms of those differences. In general, this was not found. The content analysis of types of theories produced in this condition suggested that overall a variety of theories were generated. Looking at mean levels of stereotyping across theory type in the <u>no normative fit</u> condition indicated that participants who generated theories that explained the behaviours in terms of group memberships stereotyped <u>more</u> than those who explained behaviours in terms of personality or individual differences. While this seems obvious, it is important to be aware that people can have a large store of knowledge and theories to draw upon when making social judgements, and different types of theories and knowledge will, of course, produce different levels of stereotyping. These different types of theories may act in opposing directions as was apparent in this study. Experimentally, it would be desirable to have more control over the types of theories employed by participants so that clearer predictions could be made concerning the expected pattern of stereotyping, and the expected content. Ideally, then, different sets of predictions could be made depending on the type of theory used. Such theories could be based on the types of theories that were spontaneously produced in this study — namely group-related theories and individual/personality theories.

Another limitation of the current experiment was that participants generated theories <u>after</u> they had viewed information about the two groups (but before they had made judgements about the groups). Therefore, it is possible that the theories generated were really just justifications of impressions already formed, and did not influence the formation of those impressions. To rule out this possibility it would be desirable to activate theories <u>before</u> impression formation takes place.

In the next experiment we sought to control theories by providing participants with a specific theory <u>before</u> they viewed any stimulus materials and formed impressions of groups. We also provided participants with different types of theories which should produce different levels of stereotyping. By providing participants with more than one

type of theory, we also hoped to investigate whether it is activating a theory per se which has an effect, or whether it is the type of theory which matters. As discussed in the previous chapter, forcing participants to think more about what they are doing may make them pay more attention to the task or to more actively process information, which may in turn make stereotype-inconsistent information more important in subsequent judgements (Fiske & Neuberg, 1990; Macrae et al., 1993; Stangor & Lange, 1994).

Finally, an interesting result was found in the current experiment concerning judgements of how other people in general would rate tour guides and chess players in terms of friendliness. While generally it was found that others would be expected to see tour guides as friendly and chess players as unfriendly, the difference between tour guides and chess players was larger in the theory-generation condition. In particular, participants in the no normative fit/no theory-generation condition (who had been exposed to information contrary to their expectations) judged that others would see chess players as and tour guides as equally friendly. This suggests that exposure to inconsistent information had acted to change their stereotypes of tour guides and chess players, such that they no longer saw friendliness as being a trait highly consistent with tour guides and highly inconsistent with chess players. Thus, rather than maintaining their stereotype in the face of inconsistent information they had revised it. However, participants in the no normative fit condition who generated a theory, judged that others would perceive tour guides to be highly friendly and chess players highly unfriendly. Thus, they appear to have maintained their stereotype in the face of inconsistent information. This is consistent with work by Yzerbyt et al. (1996, cited in Yzerbyt et al., 1997) who argue that reconciling inconsistent information is resource consuming and that we need resources to be able to maintain stereotypes. It could be argued that participants who had time to generate a theory had more resources available to maintain their existing stereotype (even though they did not necessarily use this as the basis of their judgements about groups A and B).

Chapter 10

Experiment 6: The Effects of Different Theories of Human Behaviour on Stereotype Content

The aim of this experiment was to further explore the role of normative fit and theories in producing stereotype content, and to expand upon and clarify the findings of Experiment 5. As such, it aimed to provide a further and stronger test of the second hypothesis of the thesis than the previous experiment. More specifically, it aimed to investigate the influence of theories on the interpretation of fit between category labels and data. Results from Experiment 5 indicated evidence that different types of theories can produce different levels of stereotyping even when stimulus data and category labels remain the same. Presumably, participants may have produced theories or drawn upon background knowledge that allowed them to make sense of the presented data and which were consistent with the intergroup differences they were presented with.

However, a problem in Experiment 5 was the variety of theories generated to explain the observed differences between the two target groups. The design of that study meant that there was no control over the types of theories which participants employed, resulting in theories that appeared to produce opposing effects. The current experiment aimed to clarify the results obtained in Experiment 5 by gaining some control over the theoretical context operating when participants make judgements about the groups. It was hoped that by manipulating theories before impressions were formed of the two groups we would be able to predict more accurately stereotyping effects or otherwise in different contexts and how different theories would interact with fit to produce stereotype content. In this experiment we also wanted to rule out the possibility that theories employed were merely justifications of impressions already formed or attempts to reconcile inconsistencies with existing stereotypes. Therefore, participants were provided with theories before they viewed stimuli about the two groups, or made any judgements about them, or indeed received any information about them. Thus, the

theories were 'activated' before participants began forming impressions of the two groups.

Overview of the experiment

The experiment employed a similar methodology to that used in Experiment 5. Participants were presented with information about the friendliness of two groups, with one group always being presented as relatively more friendly than the other. The participants' task was to make a number of judgements about the two groups. Comparative fit was not manipulated in this study. The level of comparative fit was high and kept constant across all conditions.

A qualitative analysis of the types of theories produced in Experiment 5 revealed that these fell mainly into two categories: individual or personality-type theories, and group-based theories. Individual or personality theories were theories that explained behaviours in terms of individual personalities and did not attribute behaviours to group memberships. The group-based theories attempted to account for the observed differences in behaviour in terms of group memberships.

The types of theories chosen for the current experiment were broad theories about human behaviour similar to those that had been spontaneously generated by participants in Experiment 5. Two types of theories were used: the first was a 'fixed-personality' theory which explained human behaviour in terms of stable individual personalities, the second was a 'variable-social' theory which proposed that human behaviour is flexible and determined by social and contextual variables such as group membership. A third condition was included in the design where participants were not provided with any explicit theory. The types of theories manipulated in this study were somewhat similar to the types of implicit personality theories that have been proposed by Dweck and colleagues (Chiu et al., 1997; Dweck et al., 1993; Dweck et al, 1995a, 1995b; Levy & Dweck, 1998; Levy, Stroessner & Dweck, 1998 — see review in previous chapters). They have identified two types of implicit theories that they argue influence the processing of social information and which set up an "interpretative frame" within

which information is processed. <u>Entity theorists</u> believe that personality traits are fixed and non-malleable (similar to our fixed-personality theory). <u>Incremental theorists</u> believe that a personality attribute is a malleable quality that can be changed (similar to our variable-social theory). While they have applied their analysis mainly to understanding achievement motivation, they argue that entity and incremental theorists are likely to demonstrate differences in stereotyping. Specifically, they cite evidence that entity theorists endorse existing stereotypes to a greater degree that incremental theorists (Levy & Dweck, 1998) and that entity theorists tend to assign stronger traits to novel groups (Levy, et al., 1998). Thus, they are arguing that entity theorists, who believe that personality is more of an inherent or innate quality, should demonstrate more stereotyping than incremental theorists who subscribe to a more contextual and situational view of personality.

While Dweck and colleagues have presented their approach to implicit theories as a model of individual differences (Dweck et al., 1995a), they acknowledge that "both theories may represent basic modes of thought that are at some level familiar to most individuals" (Chiu et al., 1997, p. 26). Thus, they suggest that while one theory may be more dominant, the other may still be available and able to be made accessible given the right circumstances (Dweck et al., 1995b: see also Anderson, 1995; Harackwiecz & Elliot, 1995). In an experiment performed by Chiu et al. (1997, Study 5) participants were presented with a short article that presented an argument for either an incremental theory or an entity theory, the idea being to make one or the other type of theory accessible for participants. They found that those participants presented with an entity theory subsequently made stronger trait judgements and showed more of a tendency to use traits to make future behavioural predictions, compared to those presented with an incremental theory. Likewise, Levy et al. (1998) found that participants induced to believe an entity theory endorsed stereotypes more than those induced with an incremental theory. Thus, it appeared that these types of theories could be manipulated to produce different social judgemental outcomes.

We agree with Dweck and colleagues that both types of theories (or knowledge) are available to most people and that either type of theory can be made accessible, and subsequently influence stereotyping. Therefore, in the current experiment the aim was not to split participants into those who agreed with one type of theory as opposed to another type. Rather, the theories chosen were ones that it was felt all participants probably employed at some time and that would be equally acceptable to a majority of participants. The study aimed to make one or the other of these theories more <u>accessible</u> to participants, the idea being that participants would be more 'ready' to employ a theory which had been made accessible and relevant for them (see previous discussions of perceiver readiness, Chapter 5).

In addition to varying types of theories, the experiment also varied the labels given to groups such that they were either consistent or inconsistent with presented intergroup differences. Once again, the labels used were 'tour guides' and 'chess players', which had been shown previously to be generally associated with relatively more friendliness and relatively less friendliness respectively.

The aim of the current experiment was to investigate the influence of different theories on the interpretation of fit between category labels and data, and to demonstrate that there is not a fixed consistency between categories and certain traits. On the face of it, when labels are consistent with intergroup differences there is good normative fit and therefore stereotyping should occur. Likewise, when labels are inconsistent with intergroup differences, normative fit is poor and therefore less stereotyping should occur (as per the previous experiment and Experiment 2). The introduction of theories means that intergroup differences do not just have to fit category labels, rather they have to fit theories or explanatory systems. So, for example, people employing a 'fixed-personality' type of theory should expect people to behave largely in terms of their individual personalities and in a fairly consistent fashion across situations. Therefore, a group of friendly tour guides should be seen as consistent because it make sense for inherently friendly people to become tour guides. However, a group of unfriendly tour guides should be seen as less consistent because this does not make sense in terms of the

explanatory system. People employing a 'variable-social' type of theory should expect people to display behaviours which are determined by their group membership and variable across situations. They should also see a group of friendly tour guides as quite consistent; being a tour guide may make these people friendly. However, their theory should also allow them to see a group of unfriendly tour guides as consistent as they don't expect people to behave in a stable fashion. They may deduce that there is something about being a tour guide that makes these people unfriendly (e.g., dealing with tourists!). Therefore, whether category labels are interpreted as consistent or inconsistent with intergroup differences should depend on the theory or explanatory system which people employ.

Predictions

The experiment aimed to provide a further test of the second hypothesis of the thesis as outlined in Chapter 6. On the basis of the above arguments, a number of predictions were made concerning differences in stereotyping between conditions with consistent and inconsistent category labels. Specifically, it was predicted that:

> 1. For participants given no explicit theory, those presented with consistent labels should stereotype groups <u>more</u> than those presented with inconsistent labels.

This is consistent with findings in Experiments 2 and 5 which demonstrated that less stereotyping occurs when group labels are inconsistent with intergroup differences. Likewise, it was predicted that a similar effect for label-type would be found in the 'fixed' theory condition. Thus, the second prediction was:

> 2. For participants presented with a 'fixed-personality' theory, those presented with consistent labels should stereotype groups <u>more</u> than those presented with inconsistent labels.

A different pattern of stereotyping across the label-type variable was expected in the 'variable-social' theory condition. Specifically, the third prediction was:

> 3. For those participants presented with a 'variable-social' theory, there should be <u>no differences</u> in levels of stereotyping for those presented with consistent labels compared to those presented with inconsistent labels.

Thus, overall, we predicted less stereotyping would occur when category labels were inconsistent. However, this effect was not expected to hold when a 'variable/social' theory was employed. The different pattern of stereotyping in the 'variable' theory condition compared to the 'fixed' theory condition was predicted to be driven by participants in this condition differentiating between groups (i.e., stereotyping) even when labels were inconsistent with intergroup differences. Thus, a fourth prediction was:

> 4. Given inconsistent category labels, participants presented with a 'variable-social' theory will stereotype more compared to participants given a 'fixed-personality' theory. However, given consistent category labels, there should be no differences in the levels of stereotyping across these two conditions.

Method

Participants and Design

Participants were 117 senior secondary students attending colleges in the Australian Capital Territory. Eighty percent of the sample were female and participants had an average age of 16.4 years. All students participated on a voluntary basis as part of a normal class.

The independent variables of theory type (no/fixed/variable) and category label type (consistent/inconsistent) were manipulated in a 3 x 2 between-subjects design. Participants were allocated to conditions on a random basis.

Stimulus materials and procedure

Initially, participants were given some preliminary information about the study, and asked to sign a consent form. The experiment was introduced as being concerned with the relationship between people's personality and the jobs they do. Then, according to condition, a theory about human behaviour was presented. Participants in the 'fixed-personality' theory condition were told that:

> An important theory held by many psychologists is that most people are born with certain personality characteristics and behave in a fairly consistent manner throughout their lives. For example, if you're basically an honest person, you've probably always been like that and its probably unlikely that you would ever

become dishonest. Consistent with this idea, people tend to take up jobs that reflect their personalities. For example, caring, nurturing people often tend to become child-care workers. It is unlikely that people who are like this would become business executives. We tend to be attracted to jobs that we are suited for in terms of our personality. People's behaviour tends to stay fairly constant across their lives.

The above position can be summed up by the psychological principle <u>personality determines roles</u>.

These participants were then asked to "think of some aspect of your personality that you can't imagine ever changing very much and which you think has led you into some specific role" and to write a couple sentences about this. This was intended to make the theory more salient, self-relevant and accessible for participants.

Participants in the 'variable-social' theory condition were told that:

> An important theory held by many psychologists is that most peoples' personalities are basically flexible and can change over the course of their lives. For example, you may think of yourself as a basically relaxed and easygoing person, but in some situations, such as an exam, you may become quite tense and anxious. Consistent with this idea, the jobs that people do tend to influence their personalities and behaviours. For example, people who are looking after children tend to become more nurturing and caring. If the same people later on became business executives that role may bring out more aggressive and ruthless personality characteristics. People's personalities tend to be influenced by the types of jobs or roles they are in. If they change jobs you might find that their behaviour or personality can change also.

> The above position can be summed up by the psychological principle <u>roles determine personality</u>.

These participants were then asked to "think of an aspect of your personality that has changed as you have been in different roles or groups" and to write a couple of sentences about this. Participants in the 'no theory' condition were given no instructions at this stage.

Next, all participants were told they were to view a video describing behaviours performed by members of two groups. They were told that these groups were chess players and tour guides. In the consistent labels condition, participants were told that Group A (the friendly group) were the tour guides and that Group B were the chess players. In the inconsistent labels condition, these labels were reversed.

All participants then viewed a video which was identical to the 'high fit' video used in Experiment 5. There were 18 statements about each group; 12 pertaining to friendliness and 6 neutral statements. Group A was described in terms of 9 friendly, 3 unfriendly and 6 neutral statements. Group B was described in terms of 9 unfriendly, 3 friendly and 6 neutral statements[21]. Statements were presented one at a time in a random order for approximately 5 seconds each.

After viewing the video, all participants completed a questionnaire. Initially, all participants were asked to indicate if they had been told which groups of people had been represented by groups A and B, and if so, to indicate what the two groups were. This served as a manipulation check and participants failing to answer this correctly were excluded from further analyses. Following this, participants in all conditions completed a number of dependent measures. Finally, the purpose of the study was discussed with participants and they were thanked for their participation.

Dependent measures

The first two main dependent measures, the 'trait rating' measure and the 'percentage estimate' measure, were designed to assess levels of stereotyping in terms of the dimension friendliness. The trait rating measure was identical to that used in the previous experiments. The percentage estimate measure asked participants to estimate the percentage of people in both Group A and Group B that they thought were friendly.

In the previous experiments we measured stereotyping in terms of a differentiation between groups on a specific dimension, namely friendliness or intelligence. We have done this by getting participants to rate two groups and then calculated the differences between the groups' ratings. In this experiment we also wanted to measure more directly how different participants thought the two groups were, and how similar they thought the members within each group were. When stereotyping occurs, differences between groups should be maximised and those within groups minimised. Thus, higher levels of stereotyping should be reflected by the perception of larger differences

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[21] The statements used to describe each group appear in Appendix A.

between groups and larger similarities within groups. The next two measures were designed to measure perceived differences between groups and similarities within groups. Participants rated on 9-point scales how similar they thought the members of Group A were to each other and how similar they thought the members of Group B were to each other (1=not at all similar, 9=very similar — 'intragroup similarity' measure), and how different they thought Group A were from Group B (1=not at all different, 9=very different — 'intergroup difference' measure).

Because of time constraints in administering materials during class-time the number of dependent variables were restricted and a checklist was not administered as in the previous experiment.

Additional and post-test measures

In addition to the main dependent measures, there were a number of supplementary and post-test measures designed to provide more information about what was going on in the experiment and to provide checks on the success of the manipulations. Participants were asked rate the likelihood (1 to 9 from 'definitely not' to 'definitely') of two possible attributional replies to the question "Why do you think the people in the video behaved the way they did?": "something to do with their individual personality", "something to do with the group they were in; that is, tour guide or chess player".

Participants in the 'fixed' and 'variable' theory conditions were asked how much they personally agreed with the theory of human behaviour they were initially presented with (rating 1 to 9 from 'not at all' to 'very much'). Finally, participants were asked to rate how interested they were in the study (1 to 9 from 'not at all interested' to 'very interested').

Results

Manipulation checks and cell sizes

As mentioned above, all participants who could not correctly recall the labels given to the two groups, or who did not answer this question, were excluded from further

analyses. Thirty participants[22] failed this manipulation check, leaving a sample of 87 comprised of 79% females and with an average age of 16.5 years.

The two theories used in the study were chosen on the basis that neither one would be more acceptable to participants than the other. Mean levels of agreement with each type of theory appear in Table 10.1 below:

Table 10.1

Mean levels of agreement with each type of theory: Experiment 6

Theory:	Fixed		Variable	
Label:	Consistent	Inconsistent	Consistent	Inconsistent
N:	14	14	14	15
Agreement	6.43	6.50	6.71	5.67
	(1.99)	(1.74)	(1.33)	(1.76)

Note: Scores can range from 1 to 9 with a higher score indicating more agreement. Standard deviations appear in brackets.

A 2 (theory type: fixed/variable) x 2 (label-type: consistent/inconsistent) between subjects ANOVA found no significant differences across this variable. The overall average level of agreement was relatively high at 6.32. Therefore, it appears that both theories used were seen as equally attractive or plausible, and that both theories were generally acceptable to participants.

Overview of analyses

Predictions were tested via a series of five orthogonal planned contrasts. All contrasts are one-tailed unless otherwise stated. Details of overall ANOVA's have also been included for completeness.

Main dependent measures

Four main dependent measures were employed: a trait rating measure, a percentage estimate measure, an intragroup similarity measure and an intergroup difference

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[22] This rather large number was due to a large number of participants who failed to answer this question.

measure. The trait rating and percentage estimate measures produced ratings concerning the dimension friendliness separately for groups A and B. As in the previous experiments, difference scores were calculated for the difference between ratings of Group A and Group B for both the trait rating measure and for the percentage estimate measure. The difference scores, are presented in Table 10.2 below[23]:

Table 10.2

Means for trait rating and percentage estimate difference scores: Experiment 6

Theory:	No		Fixed		Variable	
Label:	Cons	Incons	Cons	Incons	Cons	Incons
N:	13	17	14	14	14	15
Trait ratings	3.92	1.53	2.43	.64	2.79	2.47
	(2.06)	(2.72)	(2.56)	(2.27)	(2.05)	(2.90)
Percentage estimate	42.2	24.4	33.9	7.9	33.9	30.0
	(24.8)	(34.5)	(31.1)	(29.6)	(25.2)	(38.2)

Note: Scores can range from +8 to -8 on the trait rating difference measure and from +100 to -100 on the percentage estimate difference measure. On both measures, a positive score indicates that Group A were judged to be more friendly than Group B. A zero score would indicate zero stereotyping; that is, participants judge there to be no difference between groups A and B. Standard deviations appear in brackets.

It can be seen from the above means that across both measures participants tended to differentiate between groups most when labels were consistent and least when they were inconsistent. However, this difference was most pronounced in the no theory and fixed theory conditions, with little difference occurring in the variable theory condition. A highly significant positive correlation was found between these two measures, $r=.94$, $p<.01$, and therefore they were combined into an overall measure of stereotyping in terms of friendliness. This was done by recoding the scores on the percentage estimate measure onto a 9-point scale and then averaging across both measures. This new measure is referred to as 'friendliness stereotyping'.

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[23] See Appendix C for details of the mean scores on the trait rating measure and percentage estimate measure for each group.

Initially means on this new measure were subjected to 3 (theory: no/ fixed/variable) x 2 (label: consistent/inconsistent) between-subjects ANOVA revealing a significant main effect for label-type , $F(1,81)=6.85$, $p<.02$. A plot of the effects found for this variable appears in Figure 10.1 below:
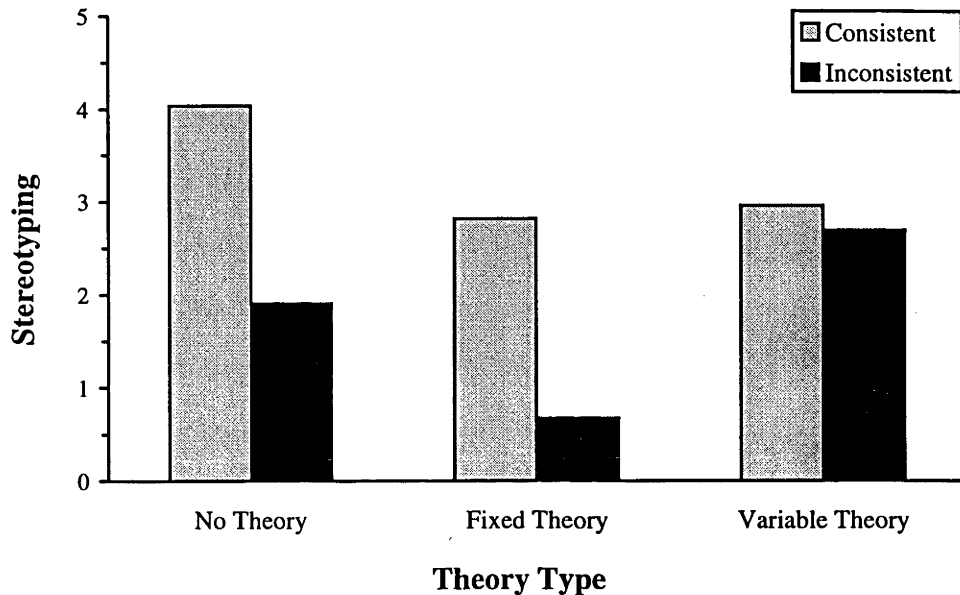
Figure 10.1 **Friendliness stereotyping scores across theory-type and label-type: Experiment 6**

As can be seen from the above figure, participants appeared to demonstrate <u>more</u> stereotyping when labels were consistent versus inconsistent in both the no theory and fixed theory conditions. However, in the variable theory condition there was no apparent difference in stereotyping across label type. When labels were consistent it appeared that participants stereotyped equally in the fixed and variable theory conditions (and slightly <u>more</u> in the no theory condition). When labels were inconsistent it appears that participants stereotyped <u>less</u> in the no theory and fixed theory conditions compared to the variable theory condition.

To test predictions 1, 2 and 3, a set of three planned orthogonal pair-wise contrasts were carried out between means in the consistent and inconsistent labels conditions for each level of the theory variable. It was found that on this measure, as predicted, participants demonstrated <u>more</u> stereotyping when labels were consistent versus inconsistent both

when there was no theory, $t(81)=2.15$ $p<.02$, and a 'fixed' theory, $t(81)=2.11$, $p<.02$. There was no difference in stereotyping across label type in the 'variable' theory condition ($\underline{M}$'s=2.96, 2.70), $t(81)=.27$, $p=.40$.

Next, we considered prediction 4. We predicted that when labels were <u>inconsistent</u> more stereotyping should occur in the variable theory condition compared to the fixed theory condition. This prediction was supported, $t(81)=2.03$, $p<.05$. Where labels were consistent, no differences in stereotyping were found in the fixed theory condition compared to the variable theory condition as predicted, $t(81)=.14$, $p=.44$.

It should also be noted from Figure 10.1, although not predicted, there appears to be generally lower levels of stereotyping in the fixed theory condition compared to the no theory condition. Post hoc comparisons between these two conditions revealed no significant differences for either the consistent labels conditions, $t(81)=1.18$, $p=.24$, two-tailed, or the inconsistent labels condition, $t(81)=1.27$, $p=.21$, two-tailed.

Measures of intragroup similarity and intergroup difference were also designed to assess the level of stereotyping, but more generally rather than in terms of a single trait. Although perceived intragroup similarity was measured separately for Group A and Group B there were no differences between groups on this measure and therefore they were combined into an overall measure of intragroup similarity (an average of intragroup similarity for Group A and intragroup similarity for Group B). Mean intragroup similarity and intergroup difference scores across conditions appear in Table 10.3 below.

The correlation between scores on these two measures was positive and significant, $r=.60$, $p<.01$, two-tailed. Therefore, the measures were combined into an overall measure of stereotyping by averaging across scores on each measure. Means on this overall stereotyping measure were subjected to 3 (theory: no/fixed/variable) x 2 (label: consistent/inconsistent) between-subjects ANOVA revealing significant main effects for label type, $F(1,81)=4.41$, $p<.04$, and theory-type, $F(2,81)=5.27$, $p<.01$. A plot of the effects found for this variable appears in Figure 10.2 below:

Table 10.3

Means for intragroup similarity and intergroup difference measures: Experiment 6

Theory:	No		Fixed		Variable	
Label:	Cons	Incons	Cons	Incons	Cons	Incons
N:	13	17	14	14	14	15
Intragroup similarity	6.12	5.29	5.61	4.46	5.46	5.90
	(.98)	(1.43)	(1.20)	(1.31)	(1.35)	(1.31)
Intergroup difference	6.62	5.94	5.71	4.14	6.57	6.47
	(2.14)	(2.22)	(2.13)	(2.35)	(1.22)	(1.64)

Note: Scores can range from 1 to 9 on both the intragroup similarity and intergroup difference measures. A higher score indicates a judgement of either higher intragroup similarity or intergroup difference. Therefore, higher scores on both measures indicate more stereotyping. Standard deviations appear in brackets.
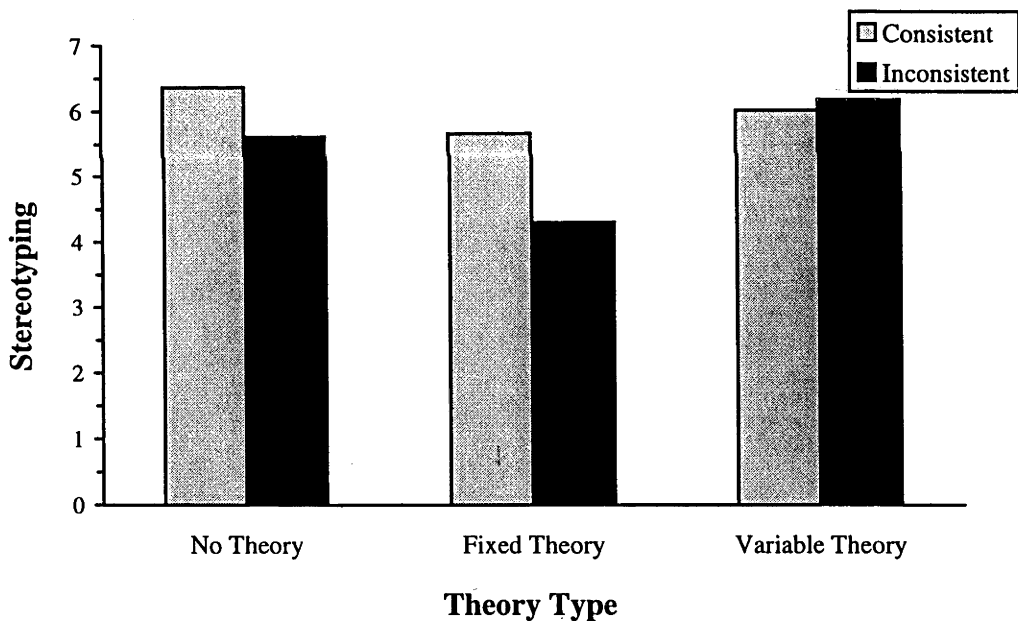
Figure 10.2 Levels of stereotyping across theory-type and label-type: Experiment 6

It can be seen from above that a similar pattern of results to those obtained for the 'friendliness stereotyping' measure were found for this measure. Again a series of planned orthogonal contrasts were carried out as per predictions. It was found that on this measure, as predicted, participants demonstrated more stereotyping when labels were consistent versus inconsistent when there was a 'fixed' theory, $t(81)=2.51$, $p<.008$.

However, where there was no theory this difference was only marginally significant, $\underline{t}(81)=1.42$, $\underline{p}<.08$. It can be seen that there was no difference in stereotyping across label-type in the 'variable' theory condition ($\underline{M}$'s=6.02, 6.18), $\underline{t}(81) =.31$, $\underline{p}=.38$.

Likewise, given inconsistent labels, the level of stereotyping in the fixed theory condition was significantly less than that in the variable theory condition, $\underline{t}(81)=3.54$, $\underline{p}<.001$. Where labels were consistent, no differences in stereotyping were found in the fixed theory condition compared to the variable theory condition, $\underline{t}(81)=.66$, $\underline{p}=.26$.

Again, it should also be noted from Figure 10.2, that there appears to be generally lower levels of stereotyping in the fixed theory condition compared to the no theory condition. Post hoc comparisons between these two conditions revealed no significant difference for the consistent labels conditions, $t(81)=1.28$, $\underline{p}=.20$, two-tailed, and a significant difference in the inconsistent labels condition, $t(81)=2.55$, $\underline{p}<.02$, two-tailed.

In summary, support for the predictions was strong. As predicted, generally more stereotyping occurred in the consistent versus inconsistent labels condition but this difference did not hold for those participants presented with a 'variable-social' theory. It appears that this is because when labels were inconsistent, those with a 'variable-social' theory stereotyped more compared to the 'fixed' theory condition.

Additional and post-test measures

Posttest questions included two attributional questions about the behaviour of the groups in the video; that is, whether their behaviour was to do with their individual personality or the group they were in. Means on all these measures across condition appear in Table 10.4 below:

Table 10.4

Mean ratings for attribution measures: Experiment 6

Theory:	No		Fixed		Variable	
Label:	**Cons**	**Incons**	**Cons**	**Incons**	**Cons**	**Incons**
N:	13	17	14	14	14	15
Individual attribution	7.62	6.77	7.43	7.54	6.86	6.87
	(1.33)	(1.82)	(1.95)	(1.66)	(1.61)	(1.89)
Group attribution	4.46	4.00	4.93	3.62	6.71	4.71
	(2.96)	(2.53)	(1.77)	(1.81)	(1.64)	(1.94)

Note: Scores on all variables can range from 1 to 9. Standard deviations appear in brackets.

Scores for individual and group based attributions were analysed via a 3 (theory type: no/fixed/variable) x 2 (label type: consistent/inconsistent) x 2 (attribution type: individual/group) ANOVA with a repeated measure on the last factor. This yielded a significant main effect for label type, $F(1,79)=8.17$, $p<.005$, a significant main effect for attribution type, $F(1,79)=58.85$, $p<.001$, and significant theory by attribution interaction, $F(2,79)=4.19$, $p<.02$. The significant effect for label type appears to be due to participants endorsing group-based attributions more when labels were consistent versus inconsistent. Comparing scores on the two attribution measures it appears that in general participants were more inclined to make individual-based than group-based attributions (M's=7.13, 4.73 respectively). This difference may be indicative of a cultural belief or norm that 'we are all individuals' and that it is 'wrong' to stereotype. Likewise, the attribution of behaviour to an individual's personality could be seen, at one level, to be consistent with both types of theories - the difference being that in one case personality is seen as being fixed and in the other it is seen as flexible. Thus, there may not have been a one-to-one link between theory-type and type of attribution. The interaction between attribution and theory-type is due to the high group-based attribution in the variable theory/consistent labels condition compared to other conditions. Thus, it appears that the theory activated in this condition lead participants

to be more inclined to make group-based attributions for the perceived consistency between behaviours and groups.

Participants were also asked to indicate posttest how interested they were in the study. Means scores for this variable across conditions appear in Table 10.5 below:

Table 10.5

Mean ratings for interest scores: Experiment 6

Theory:	No		Fixed		Variable	
Label:	Cons	Incons	Cons	Incons	Cons	Incons
N:	13	17	14	14	14	15
Interest	4.77	4.29	7.00	6.50	6.71	5.80
	(2.24)	(2.26)	(1.66)	(1.35)	(.91)	(1.78)

Note: Scores on all variables can range from 1 to 9. Standard deviations appear in brackets.

A 3 (theory: no/fixed/variable) x 2 (label: consistent/inconsistent) between-subjects ANOVA of 'interest' ratings found a significant main effect for theory-type, $F(2,81)=12.41$, $p<.001$, indicating that those participants who were presented with a theory (combined $M=6.51$) found the study to be more interesting than those who received no theory ($M=4.53$). This may indicate that participants presented with a theory, of any type, would be more motivated to pay attention to the stimulus materials and to put more thought into subsequent judgements.

Discussion

The results of this experiment provided strong support for our predictions. As predicted, different effects for label-type were found depending on what type of theory was made accessible. In the condition with no explicit theory, participants tended to differentiate between groups more when category labels were consistent with intergroup differences versus inconsistent. This result supports the findings of Experiments 2 and 5. Likewise, when a 'fixed-personality' theory was made accessible for participants, they demonstrated more stereotyping when category labels were consistent versus

inconsistent. It appears that this type of theory allowed good fit between labels and behaviours when labels were consistent, but not when labels were inconsistent. Finally, as predicted, when a 'variable-social' theory was made accessible, there were no effects for label-type. Regardless of whether labels were consistent or inconsistent, participants demonstrated stereotyping in this condition. Compared to the 'fixed-personality' theory condition, those in the 'variable-social' condition demonstrated more stereotyping when labels were inconsistent but the same amount of stereotyping when labels were consistent. Thus, it appears that this type of theory allowed for good fit between behaviours and labels, regardless of whether those labels might initially be thought of as consistent or inconsistent.

Overall, the results of this study provide support for the theoretical argument presented. Broadly speaking, this argument is that stereotyping will occur when there is good fit between stimulus data and a category. However, the 'category' is not conceptualised as a fixed cognitive structure that is cued by a category label. Rather, the category and the 'fit' between category labels and data are argued to be generated within a broader framework of knowledge and theories which allow both the category itself and the fit between categories and data to be flexible.

In general, category labels may provide a low level theory that generates expectations about a category. For example, if we are presented with the category label 'tour guides', we may expect this group of people to be friendly, especially relative to a group of 'chess players'. However, while these labels may generate a set of expectations, this is not to say that there is a fixed relationship between the category 'tour guides' and the attribute 'friendliness'. This relationship is interpreted within a broader theoretical context, and depending on what knowledge or 'explanatory system' is most accessible, may be interpreted as either consistent or inconsistent (or irrelevant).

One of the aims of the current study was to demonstrate that the 'consistency' between a personality attribute, such as 'friendliness', and a category label, such as 'tour guide', is not fixed and is dependent on the salient theoretical context. Overall, the results of this

experiment provide support for the notion that theories play an important role in the interpretation of 'fit' between categories and attributes. The results of this experiment demonstrate that a change in theoretical context alone can produce differences in stereotyping. We argue that this difference is primarily due to the interpretation of 'fit' in the inconsistent labels conditions. When there was a 'fixed' theory, the labels in this condition appear to be interpreted as 'inconsistent' with the presented intergroup differences. Therefore, there was poor fit between the data and the category, and consequently little stereotyping occurred. When there was a 'variable' theory, the 'inconsistent' labels appeared to be interpreted as consistent — there was good fit between category and data and thus stereotyping occurred, equal to when labels were 'consistent' with data. Importantly, these results suggest that the same category label can be interpreted as both 'consistent' and 'inconsistent' with the same set of intergroup differences, depending on the theoretical context. This goes against the idea that there is a 'fixed' relationship between category labels and attributes. Likewise, it challenges the notion that there is a <u>fixed</u> category, such a 'tour guide', with <u>fixed</u> contents, such as 'friendliness'. In this study, the category 'tour guide' was associated with both friendliness and unfriendliness when it made sense to do so. Therefore, it would appear that categories, such as 'tour guide' are not fixed and do not have a fixed content.

An interesting finding in the current experiment was that, given consistent category labels, participants stereotyped groups to the same degree regardless of whether they were presented with a fixed or variable theory. We noted in the introduction to this experiment that researchers such as Dweck and colleagues have suggested that entity theorists may be more inclined to stereotype than incremental theorists. Likewise, work by Yzerbyt et al. (1997) suggests that those who hold 'essentialistic' theories, which are somewhat similar to entity theories, are more likely to make categorical judgements. The results of this experiment suggest that both entity-type and incremental-type theories may result in stereotyping. What matters is not the type of theory per se, but the relationship (or fit) between that theory and the data. Thus, either type of theory may result in stereotyping when they provide the right explanatory relationship between

category and data. Results on the attributional measures showed that participants in the variable theory/consistent labels conditions were more inclined to endorse a group-based attribution suggesting that while stereotyping to the same degree as those in the fixed theory condition, their stereotyping was based upon a different underlying assumption.

Another interesting result in the current experiment was that participants in the no theory condition appeared to generally demonstrate a higher level of stereotyping than those in either of the two theory conditions (although this difference only reached significance for the stereotyping measure in the inconsistent labels condition). This finding could be linked to the distinction between active versus passive processing as discussed in previous chapters. It is possible that those presented with a theory were engaged in more active processing and thus were generally less inclined to make a categorical judgement. The scores on the measure of interest indicated that those presented with a theory found the task significantly more interesting than those without an explicit theory, suggesting that they may have been more actively engaged in the task. If this is true, then it appears that active processing, like different theories, can either result in more or less stereotyping, and again this would appear to depend on the fit between theories and data. We have also discussed previously how making participants think about a theory may make them pay more attention to the task at hand and have more cognitive resources available for the task. Generally, these factors are argued to result in less stereotyping and more individuated judgements (Fiske & Neuberg, 1990; Macrae et al., 1993). In this experiment, theories resulted in both more and less stereotyping depending on the fit between theories and data. Thus the relationship appears to be more complex than those discussed above. Activating theories may result in more cognitive resources being available, and as argued by Spears and Haslam (1997), resources are needed to detect fit between theories and data. However, whether more resources results in more or less stereotyping depends on whether fit is detected and indeed on whether fit is there to be detected. Resources may also be need to detect a lack of fit. Indeed, in the inconsistent labels condition, those participants

presented with a 'fixed' theory appeared to stereotype less than those with no theory. Thus, it appears that theories may act not only to demonstrate fit between categories and data, but also to accentuate a lack of fit.

An important point to note is that the theories used in this study were not <u>directly</u> related to group behaviours or labels, or the relationship between the two. That is, the theory was not simply a matter of telling participants, for example, that these tour guides are unfriendly for whatever reason — the theory served more to give participants an outlook, or an explanatory system within which they could then interpret 'reality'. In this respect, theories seem closely related to perceiver readiness; that is, the idea that we perceive the world relative to ourselves and our own theories, and that our perception is in turn constrained by ourselves and our theories (Oakes et al., 1994). Importantly, though, these theories do not operate independent of reality. While we may be 'primed' to see the world a certain way, we will not do so unless the world <u>is</u> that way in some sense. This is where fit comes into the picture: "Fit ties perception firmly to reality; however perceptually 'ready' we may be to see a given object or event in terms of category accessibility, we do not do so until something with at least requisite characteristics enters the perceptual field" (Oakes, et al., 1994, p. 116).

While perception is constrained by ourselves and our theories, we have argued earlier in this thesis that these in turn are constrained by our self-categorizations. In the next, and final, experiment we consider the influence of theories that are explicitly linked to self-categorizations.

Chapter 11

Experiment 7: The Effects of Different Background Theories on Judgements of Prototypicality and Stereotype Content

This experiment aimed to expand upon the findings of the previous experiments and to address some of the theoretical questions left unanswered by those experiments. The results of our previous experiments have shown how comparative and normative fit operate together to determine stereotype content, and have demonstrated the role of background theories in determining the fit between categories and content. In the previous experiments we have conceptualised stereotype content as the amount of differentiation between groups in terms of a relevant dimension. For example, in Experiment 6 we considered how differentiation between groups in terms of the dimension 'friendliness' would vary as different background theories were made accessible, and argued that with different theories this dimension is seen as more or less consistent with the same category.

We have previously argued (see Chapter 6) that the content associated with any given category will vary, not only with comparative context, but also with variations in background theories and knowledge. In Experiment 6 we demonstrated that judged levels of specific content (i.e., friendliness) varied with different background theories. In the current experiment, we wanted to consider how different background theories determine the content of social categories more broadly, rather than just demonstrating variations in use of the same content dimension. Specifically, we aimed to demonstrate in this experiment that the meaning of a social category could vary with different background theories. We aimed to demonstrate this in two ways. Firstly, we aimed to show that the perceived prototypicality of a given person with a given social category would vary with different theories. Previous research has demonstrated that the same person can be seen as more or less prototypical of the same category depending on the comparative context (Haslam, McGarty et al., 1995). The current experiment aimed to

demonstrate that the same person can be seen as more or less prototypical of the same category depending on the type of theory made accessible. Secondly, we aimed to show that the content associated with a given social category can vary with different background theories. In this experiment, rather than considering a specific content dimension relevant to differences between groups, we considered content that was related to a specific social category and that should vary with different background theories. Thus we were investigating changes in the <u>type</u> of content associated with a category rather than in the <u>degree</u> of a specific content dimension associated with a category (as in Experiment 6).

In Experiment 6, theories were made accessible to participants in an individualistic fashion. That is, we were concerned with making theories accessible to each participant personally, and did not consider the extent to which these theories may be shared within (or originate within) an individual's social group. Other research considering the influence of different theories on social judgements has also taken an individualistic approach (e.g., Chiu et al., 1997; Dweck et al., 1993; Levy et al., 1998; Wittenbrink et al., 1997). However, we have argued in Chapter 6 that theories are socially shared and socially determined pieces of knowledge that are linked to the way we self-categorize. Research by Haslam and colleagues (Haslam, 1997; Haslam et al., 1996; Haslam et al., 1998) has demonstrated how shared in-group norms can influence stereotype content. In this experiment we aimed to show how shared ingroup theories could also influence stereotype content (and perceptions of prototypicality). Thus, in this experiment, unlike Experiment 6, an attempt was made to link theories to an individual's ingroup.

Thus, the aims of the current experiment were threefold. Firstly, it aimed to demonstrate that the consistency or fit of a stimulus person with a given category varies with the broader background theory made accessible for the perceiver. Therefore, whether a person is judged to be prototypical of a given category should vary with the broader theory or explanation made accessible. That is, it sought to demonstrate that perceived prototypicality of a category can vary with background theories as well as with context. To show this independently for theories, comparative context was not manipulated in

this study. Secondly, the study aimed to show that the <u>content</u> of the stereotype associated with a given category also varies with the accessible theory. We wished to demonstrate more clearly the link between a certain type of theory and certain stereotype content. Thirdly, we wished to link theories to social groups. We wanted to demonstrate consistency in the theories generated by persons who shared the same ingroup compared to a relevant outgroup.

Overview of the experiment

Given the above aims, an experiment was designed so as to manipulate the broad theories and background knowledge accessible to participants and then to measure their stereotyping of a category whose meaning should change in line with these theories. To address the aims of this experiment (as discussed above) a different methodology was adopted in this experiment in comparison to the previous experiments. It was decided that rather than giving participants theories (as in Experiment 6) it would be more effective to present them with statements which it was felt they would disagree with, and then encourage them to generate their own theories by focussing on why they disagreed with these statements and articulating an alternative position. We attempted to make an ingroup identity salient by getting participants to compare themselves and other ingroup members who (like them) would disagree with the statement with outgroup members who would agree with the statement. Two extreme statements were constructed to act as stimulus statements, both of which outlined a 'theory' about the determinants of success in our society. The details of these statements are provided below.

The category chosen for participants to make judgements about was the long-term unemployed. This category was chosen because of its link with the stimulus statements. That is, the reasons for long-term unemployment are related to the reasons for success or otherwise in our society. Likewise, long-term unemployment is a topical issue and one that participants should be familiar with and hold opinions about. The study aimed to show that the prototypicality of a given stimulus person of the category long-term unemployed would vary with the theory made accessible for participants. To this end,

two stimulus persons were 'constructed' designed to be either (at face value) more or less typical of the category long-term unemployed. Again these persons are described in more detail below. Therefore, at face value, there was more consistency between one stimulus person and the category, and less consistency between the other stimulus person and the category. The experiment aimed to show that this perceived consistency itself would vary with the type of theory made accessible. Thus, the person seen as typical or consistent (or fitting) in one theory condition may be seen as less typical or consistent (or fitting) in another theory condition (and vice versa).

Broadly speaking the experiment sought to provide a further test of the second hypothesis of the thesis. More specifically, it sought to show that the same stimulus person would be judged to be more or less prototypical of the same category depending on the broad theory that was made accessible, and the stereotype content associated with a given category would vary with the broad theory that was made accessible.

We also wanted to address the third aim of the thesis in this study. We sought to make participants categorize themselves with others who, like them, disagreed with the stimulus statement in comparison to those who agreed with the statement. The theories generated by participants should reflect their self-categorization with others who hold a similar position. Likewise, the types of theories generated should vary depending on which 'ideological' group was made salient for participants. Thus, the experiment aimed to show that theories generated by those who share a social categorization are consistent for those within the social category and different to those generated by persons in opposing social categories.

Predictions

Specific predictions were made concerning both judgements of prototypicality and stereotype content. The first prediction concerned prototypicality. It was predicted that:

1. The same stimulus person would be judged to be more or less prototypical of the same category depending on the broad theory that was made accessible.

With respect to stereotype content it was predicted that:

2. The stereotype content associated with a given category would vary with the broad theory that was made accessible.

Method

Pre-test screening

Initially participants from the introductory psychology course at the Australian National University were presented with one of two possible statements outlining theories about success in our society. Participants were asked to indicate how much they agreed or disagreed with the statement presented. This served as a basis for recruiting participants for the main experiment.

All participants were told that the study was concerned with "attitudes and opinions about our society and some current issues", and that this was the first phase of the study and they would be given the opportunity to participate in a second phase at a later date. Participants were then informed that they would be presented with a statement "concerning social and economic attitudes, that was recently expressed in the media by a certain group in our society. For all sorts of reasons we can't tell you the name of this group at present. However, we can tell you that they are a group who subscribe to fairly extreme politics and are considered by many to be a minority or 'fringe' group. Please read through the statement carefully."

Participants were then presented with either Theory A or Theory B which are outlined below:

Theory A

> In our society individual ability and effort are the only keys to success. We are all born equal and if inequality exists it is the result of problems specific to individuals not to socio-economic groups. Society is simply a collection of discrete individuals, each of whom should seek to further their own private interests. If people really want to succeed and get on in life they will. All those people we hear referred to as 'disadvantaged' or 'oppressed' in our society wouldn't be disadvantaged if they just got off their butts and tried a bit harder. If they don't succeed, they only have themselves to blame. We must beware of bailing-out people who basically just expect to be helped through life, given hand-outs, without ever even trying to help themselves. Lets face it, most of the people who need hand-outs have never even tried to help themselves!

Theory B

> In our society success is entirely determined by external factors, like the family you happen to be born into. Individual effort and ability count for nothing. We cannot explain the inequalities that exist in our society in terms of differences between individuals — they are entirely due to differences between socio-economic groups. None of the blame or responsibility for lack of success can lie with any of those people who are less well-off in our society. We can only blame the rest of society, including ourselves, for their lot — we must take responsibility and share the guilt for the inequalities that exist. People who are born into certain groups in our society are stuck at the bottom and there is nothing they can do through their own efforts to change their situation. We just can't expect them to help themselves and they are entitled to demand help from those who are better-off.

At the end of the statement, participants were asked to indicate "how much you agree or disagree with this statement." Participants marked their response on a 9-point scale ranging from 1 (agree) to 9 (disagree).

Both theories were designed to be fairly extreme statements which it was felt that the majority of introductory psychology students would disagree with. Allocation to conditions (i.e., theory type) was random. Participation in this phase of the study was in laboratory groups ranging from 13 to 27 students per group.

In this phase, 68 participants were presented with Theory A and 80 participants were presented with Theory B. Of those presented with Theory A, the majority (81%) disagreed with it, 4% were neutral and 15% agreed. Across all participants the mean level of disagreement was 6.96 which is significantly different from the midpoint (neutral position) of the scale, $t(67)=9.45$, $p<.001$, two-tailed. Of those presented with Theory B, the majority (59%) disagreed with it, 12% were neutral and 29% agreed. Across all participants the mean level of disagreement was 5.96 which is significantly different from the midpoint (neutral position) of the scale, $t(79)=9.63$, $p<.001$, two-tailed. Therefore, overall the majority of participants disagreed with both theories although the level of disagreement was higher for Theory A than for Theory B as might be expected for a university sample.

Only those participants who expressed <u>disagreement</u> (a score of 6 or greater) with either of the statements were given the opportunity to participate in the main experiment.

Participants and Design

A total of 50 participants took part in the main experiment. There were 40 females and 10 males, with an average age of 21.4 years. All participants received course credit for their participation. The experiment was run in sessions of between 1 and 3 participants per session.

The independent variables of theory type (A/ B) and stimulus interview type (consistent/ inconsistent) were manipulated in a 2 x 2 between subjects design. Allocation to stimulus interview type was random.

Procedure

At the beginning of the session, all participants were given the following instructions:

> This study is concerned with your attitudes and opinions about our society and some current issues. There are two phases to this study. This is the <u>second</u> phase. You completed the <u>first</u> phase of this study in your laboratory class. You may remember that you were presented with a statement, concerning social and economic attitudes, that was recently expressed in the media by a certain group in our society. You were then asked to indicate whether you agreed or disagreed with that statement.

> You have been recalled to this phase of the study because you DISAGREED with that statement. There are some other participants who AGREED with the statement and they are attending other sessions. We are interested in comparing your opinions with participants in other sessions who AGREED with the statement. Just to remind you of that statement, it appears below. Please read through the statement again.

Depending on which statement they were initially presented with (at pretesting), participants were then presented with that theory (A or B) again. After reading through the statement again, all participants answered two questions concerning the statement. The first question was: "You have previously indicated that you disagree with this statement. Think about why you disagree with this statement — list as many reasons as you can think of below." The second question was: "This statement represents a certain way of looking at the world. You may have your own, alternative way of looking at the

vorld — please try to express this below in a couple of sentences." These questions
vere designed to focus participants on why they disagreed with the initial statement and
o make their alternative theories accessible. They also allowed us to determine the
ypes of theories made accessible and how consistent these were within conditions.
Participants were given 2 minutes to write an answer to each question and the
experimenter instructed them as to when their time was up and when to move onto the
iext question.

Following completion of this task, participants listened to two audio-taped interviews
vith stimulus persons. These interviews were constructed so as to present one stimulus
jerson in one condition was more consistent with, or prototypical of, the category 'long-
brm unemployed' compared to the other stimulus person in the other condition. A
pretest with 26 independent participants indicated that there were significant differences
in prototypicality of the stimulus person across the two interviews, $t(24)=2.12$, $p<.05$,
two-tailed[24]. The stimulus person was presented to participants within the context of an
audio-taped interview between the stimulus person and the researcher. The interviews
vere introduced to participants in the following fashion:

> As part of this research project I've been conducting interviews with a selection of
> ordinary Australians concerning their attitudes about society and some current
> social issues. Given our current time constraints, I've chosen at random a selection
> of recordings of those interviews for each group of participants to listen to. In your
> case, you'll be listening to two interviews — one with CATHY and one with
> DAVE. You're only going to listen to the beginning of the interviews, where I ask
> people for some general background information about themselves. I'll be asking
> you to make some judgements about the types of attitudes you think these people
> might hold and about your own attitudes ... please listen to each interview
> carefully.

All participants then listened to two stimulus interviews, audio-taped with Cathy, who
vas an employed person, and Dave (the stimulus person) who was an unemployed (and
(epending on condition was either consistent with, or inconsistent with, the category
bng-term unemployed). The researcher acted as the interviewer in all cases. The same
nale confederate played the role of Dave in both conditions and a female confederate

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[2] The measure of prototypicality used was the same as that employed in the main experiment. Details of
low this was measured are outlined in the Method and Results sections.

played the role of Cathy. The interview with Cathy was always played first and was always the same. This interview was designed to be as neutral as possible and served the purpose of getting participants used to the format of the interview. It also acted as a filler to make the true nature of the study less transparent and to lend credibility to the cover story. The interviewer asked Cathy a number of questions about her background, education, living arrangements, future plans etc. The experimenter stopped the tape after a few minutes at a point where it seemed the interviewer was proceeding to ask more specific questions concerning the interviewee's attitudes to society. A full transcript of this interview appears in Appendix A. Following this participants listened to an interview with Dave which had the same format (questions) as the interview with Cathy. Dave was a 27 year old, single male who had been unemployed for a year and a half. The content of this interview differed across conditions. In the <u>consistent</u> condition, Dave was presented as a 'dole bludger'[25]; he was lazy, put little effort into finding a job and tended to blame others for his unemployment. In the <u>inconsistent</u> condition, Dave was presented as someone who was bright and active, but unable to find a job despite his efforts. To highlight the difference between the interviews, in response to the question:

Have you had any further education or training since leaving school?

Dave in the <u>consistent</u> condition responded:

... uuh yeah, I started a TAFE[26] course when I left school but I dropped out after a year, uh, 'cause I ended up failing most things. I guess I just partied too much. Umm, since I've been unemployed the CES[27] is always trying to send me on those, you know, trainin' courses but I don't go to any of them. Can't see the point really. They usually sound like they'd be dead boring. (sighs) I can't see what I'd get out of them.

whereas Dave in the <u>inconsistent</u> condition responded:

D: Uh yeah, actually I have, umm, I did a TAFE course when I left school. It got pretty hard going at times because, uh, I had to support myself but I still managed to finish it. And since I've been unemployed the CES has encouraged me to go to

[25] 'Dole bludger' is a colloquial Australian term which refers to someone who is unemployed, receiving unemployment benefits and not really making any effort to find a job.
[26] The initials TAFE stand for Technical and Further Education.
[27] The initials CES stand for Commonwealth Employment Service.

training courses and I've been along to a few now and their, oh, pretty interesting. I figure it, you know, I figure it can't hurt to be better trained. At least I feel like I'm, you know, doing something.

Again the interview with Dave was stopped after a few minutes. Each interview ran for approximately 3 minutes. A full transcript of each interview appears in Appendix A.

After listening to the stimulus interviews all participants completed a questionnaire about the long-term unemployed and the target stimulus person (Dave). Participants were told that they would receive a questionnaire relating to each interview they had heard — that is, one relating to the interview with Cathy and one relating to the interview with Dave. They were then told that the order of presentation of these questionnaires was being randomised across different groups and in their case they would receive the questionnaire relating to the interview with Dave first followed by the questionnaire relating to the interview with Cathy. In fact all participants only ever received the questionnaire relating to the interview with Dave. On all questionnaires, the words 'Dave' and 'long-term unemployed' were handwritten to give the impression that this person and occupation were only two of many that participants could have been asked about.

After completing the questionnaire, participants were debriefed as to the true nature of the study, and were then thanked and dismissed.

Dependent measures

Three questions measured how prototypical participants thought the stimulus person (Dave) was of the category long-term unemployed. Firstly, participants were asked to indicate how typical they thought Dave was of the long-term unemployed (9-point scale ranging from 1, not at all typical, to 9, very typical) and how representative they thought Dave was of the long-term unemployed (9-point scale ranging from 1, not at all representative, to 9, very representative).They were also asked "What percentage of the long-term unemployed do you think would have similar attitudes to Dave? (0-100%)".

To measure changes in stereotype content across conditions, participants were also asked to complete a Katz-Braly type checklist separately for the long-term unemployed

and for Dave. The list of words was essentially the same as that originally used in Katz and Braly (1933). However, 12 words were removed from the list because they were thought to be irrelevant to the judgement at hand (treacherous, gluttonous, religious, superstitious, cowardly, pugnacious, sensual, cruel, musical, dirty, revengeful, artistic). These were replaced by 6 words thought to be particularly relevant to this category and which represented differing explanations for long-term unemployment (unmotivated, whingeing, dependent, unlucky, underprivileged, blameless). Participants were asked to read through the list of words and to underline those they thought to be most typical of the long-term unemployed. They were then asked to mark with the letter U the five words they thought were most typical of the long-term unemployed and to list these five words in the space provided. They then repeated the task for Dave, this time marking the words with the letter D. Participants always completed the task for the long-term unemployed before doing the task for Dave. A full list of the adjectives used appears in Appendix B.

Posttest measures and manipulation checks

All participants completed six questions designed as posttest measures and checks on the major manipulations in the study. All responses were on 9-point scales. The questions were as follows:

(1) How much effort do you think Dave put into finding a job? (1, 'very little' to 9,'a lot')

(2) How much did you like Dave? (1, 'very little' to 9, 'a lot')

(3) Think back to the statement you were presented with at the beginning of this study. According to that statement, what are the important factors for success in our society? (1, 'individual effort and ability' to 9, 'social and external factors')

(4) How similar do you think you are to those people who would agree with that statement? (1, 'not at all similar' to 9, 'very similar')

(5) How similar do you think you are to those people who would disagree with that statement? (1, 'not at all similar' to 9, 'very similar')

(6) How interested were you in this study? (1, 'not at all interested' to 9, 'very interested')

Questions 1 and 2 were designed to check that participants perceived a difference between the stimulus person in the two interviews. Question 3 was designed to check that there was a perceived difference in the content/message of the two statements. Questions 4 and 5 were designed to check the level to which participants self-categorised themselves as members of the appropriate social category. We expected them to see themselves as more similar to others who disagreed with the initial statement compared to those who agreed with it.

Finally, all participants were asked to indicate their age and sex.

Results

Manipulation checks

The mean scores for questions 1-6 across conditions appear in Table 11.1 below. We also looked at mean levels of disagreement with the stimulus statements (measured at pretest) across conditions.

A series of 2 (theory-type: A/B) x 2 (interview type: consistent/inconsistent) between subjects ANOVA's were carried out for each of the first three measures. As we would expect, participants thought the stimulus person in the inconsistent interview put more effort into finding a job than stimulus person in the consistent condition (M's=7.42 vs. 2.32), $F(1,46)=279.8$, $p<.0001$, and they also liked the inconsistent stimulus person more than the consistent stimulus person (M's=6.81 vs. 3.19), $F(1,46)=78.7$, $p<.0001$. As expected those participants presented with Theory A thought it attributed success more to 'individual effort and ability' (M=2.96) while those presented with Theory B thought it attributed success more to 'social and external factors' (M=5.51), $F(1,46)=10.2$, $p<.005$.

Table 11.1

Mean scores for manipulation checks across interview and theory-type:

Experiment 7

Interview Type:	Consistent		Inconsistent	
Theory:	A	B	A	B
N:	13	14	12	11
Q1) Effort of stim. person	2.31 (.95)	2.33 (1.44)	7.57 (.94)	7.27 (.91)
Q2) Like stim. person	3.38 (1.61)	3.00 (1.91)	7.07 (1.27)	6.54 (.52)
Q3) Original statement	3.00 (2.45)	4.83 (3.24)	2.93 (2.53)	6.18 (3.03)
Q4) Similar agree	4.46 (1.94)	5.17 (2.48)	3.21 (1.93)	4.09 (1.92)
Q5) Similar disagree	6.54 (1.27)	3.83 (1.95)	6.79 (1.25)	6.27 (1.79)
Q6) Interested	7.00 (.71)	7.25 (1.06)	7.57 (.76)	6.73 (.79)
Disagreement at pretest	7.15 (.90)	7.42 (1.08)	7.71 (.73)	7.46 (1.04)

Note:All scores can range from 1 to 9; standard deviations in brackets.

Mean scores for questions 4 and 5 were analysed in a 2 (theory-type: A/B) x 2 (interview type: consistent/inconsistent) x 2 (similarity: agree/disagree) ANOVA with a repeated measure on the last factor. Overall participants judged themselves to be more similar to those who disagreed with the statement ($\underline{M}$=5.90) compared to those who agreed ($\underline{M}$=4.20), $\underline{F}$(1,46)=14.80, $\underline{p}$<.001. However, this main effect was qualified by a significant interaction between theory-type, $\underline{F}$(1,46)=8.08, $\underline{p}$<.01, and interview type, $\underline{F}$(1,46)=8.90, $\underline{p}$<.005. This appears to be driven by the relatively high level of judged similarity to others who agreed with the initial statement and the relatively low level of judged similarity to those who disagreed with the statement in the inconsistent interview/Theory B condition. A possible reason for this was revealed by an inspection

of participants' responses in this condition. This suggested that a number may have misinterpreted these questions as meaning how similar are you to others who agree or disagree with the statement that they generated in response to the initial statement. Participants with low levels of similarity to others who disagreed and high levels of similarity to those who agreed also tended, in response to question 3, to misattribute the message of the initial statement to social and external factors suggesting that they were referring to their own position rather than the initial statement. It should be noted that participants in this condition showed overall high levels of disagreement with the initial statement at pretest, suggesting that they did indeed disagree with the statement.

Levels of disagreement with the statement presented at pretest were analysed in a 2 (theory type: A/B) by 2 (interview type: consistent/inconsistent) between subjects ANOVA. Scores did not differ significantly across conditions, suggesting that across conditions levels of disagreement with the statement presented were equal. In addition, we wanted to ensure that those participants who chose to take part in the main experiment were not more extreme with respect to their levels of disagreement with the stimulus statement compared to those who participated in the pretest. For those presented with Theory A, there was no difference between mean levels of disagreement between all those who disagreed at pre-test (M=7.64) and those who chose to participate in the main experiment (M=7.44). Likewise, for those presented with Theory B, there was no difference between mean levels of disagreement between those at pretest (M=7.47) and those who participated in the main experiment (M=7.44).

Overall there was a high level of interest (question 6) in the main experiment (Grand M=7.16), which was slightly lower for those in the Theory B/inconsistent interview condition (as indicated by a significant theory by interview interaction, $F(1,46)$=5.36, p<.03).

Types of theories generated

All participants were asked to write about the reasons why they disagreed with the statement they were presented with and to outline their own, alternative position. For

those participants initially presented with Theory A, the reasons most commonly stated for disagreement were: (1) that not everyone is born equal and not everyone has the same opportunities in life, and (2) that some people will not succeed no matter how hard they try because of circumstances beyond their control. There appeared to be a high degree of consistency in the theories produced in this condition. The following response was typical of those in this condition:

> The concept we are 'born equal' is ridiculous — we are heavily influenced, for example, by the wealth, race, class etc. of our family and surroundings. We are not discrete individuals but a collective society. This (the statement) is an individualistic principle based on the free market etc. I believe many factors combine to decide whether or not an individual will 'succeed' — factors we are unable to control or change. Hard work helps, but background is more important.

For those participants initially presented with Theory B, the most common reasons for disagreement were: (1) people can succeed no matter what their background/circumstances, (2) individuals are responsible for and in charge of their own destiny, and (3) hard work and effort count. Many participants in this condition also acknowledged that external factors can create some barriers to success but that generally these barriers can be overcome by hard work and effort. The following response typified many of those in this condition:

> Many people born into low socio-economic groups later join high socio-economic groups — e.g., people who are born poor but die millionaires — through sheer hard work. If you want something badly enough you will go to any lengths to achieve it. Nothing is impossible — sometimes its just harder for some people. Life is what you make it and nothing is impossible — if you really want something, it won't just be handed to you — you'll have to put effort (sometimes lots!) into getting it, and you'll be a better person for having that experience.

Thus, different types of theories reflecting different reasons for success in society were generated in the two conditions. To check that the theories generated within each condition were consistent (and different between conditions), participants' responses were coded for the type of theory they represented. They were coded as either representing a theory which argued that external factors were important in determining success (external-type theory), a theory which argued that internal factors were important in determining success (internal-type theory), as containing elements of both

types of theories (both) or as arguing for neither position (neither). We expected that those initially presented with Theory A would generate external-type theories whereas those presented with Theory B would generate internal-type theories.

The participants' responses were coded by the experimenter and an independent coder, both blind to condition. Initial agreement between coders was 70%, which rose to 100% after discussion. The coding showed that of those initially presented with Theory A, 96% generated an external-type theory. The remaining 4% generated a theory that contained elements of both theories. Of those initially presented with Theory B, 83% generated an internal-type theory, while the remaining 17% generated a theory that contained elements of both theories.

Thus, it appears that the theories produced were consistent within conditions and were different across conditions. The types of theories generated in response to Theory A were slightly more consistent than those generated in response to Theory B.

Prototypicality measures

The first three dependent measures (typicality, representativeness, and similar attitudes) were designed to assess the perceived prototypicality of the target person with the category long-term unemployed. The mean scores for these three measures across all conditions appear in Table 11.2 below.

It can be seen from that table that for participants presented with the consistent interview, across all measures judgements of prototypicality were higher with Theory B versus Theory A. However, for participants presented with the inconsistent interview, there was little difference in judgements of prototypicality across theory type. The correlations between dependent variables were all positive and highly significant as presented in Table 11.3 below.

Table 11.2

<u>Mean prototypicality scores across interview and theory-type: Experiment 7</u>

Interview Type:	Consistent		Inconsistent	
Theory:	A	B	A	B
N:	13	14	12	11
Typical	6.31 (1.25)	6.58 (.90)	5.14 (1.70)	5.45 (2.30)
Representative	5.46 (.97)	6.67 (1.30)	4.79 (1.72)	5.00 (1.90)
Similar attitudes	48.8 (14.5)	67.5 (9.2)	50.7 (18.9)	50.5 (22.7)

<u>Note</u>: A higher score indicates a judgement of greater prototypicality; scores for typical and representative can range from 1 to 9; scores on similar attitudes can range from 0 to 100; standard deviations in brackets.

Table 11.3

<u>Correlations between dependent variables: Experiment 7</u>

	Representative	Similar Attitudes
Typical	.75*	.66*
Representative		.62*

<u>Note</u>: * indicates significant at p<.01, two-tailed.

All three dependent variables were combined into an overall measure of prototypicality. This was done by recoding scores on the similar attitudes measure to a 9-point scale and then averaging across all three measures. This new scale is referred to as <u>prototypicality</u> and had a very satisfactory Cronbach's alpha of .80. A 2 (theory type: A/B) x 2 (interview type: consistent/inconsistent) between subjects ANOVA was carried out for this 'prototypicality' measure revealing a significant main effect for interview type, $\underline{F}(1,46)=6.56$, $\underline{p}<.015$. The obtained pattern of means on this measure across conditions is presented below in Figure 11.1:

7 ─

6 ─

5 ─

4 ─

3 ─

2 ─

1 ─

0 ─

Prototypicality

☐ Theory A
■ Theory B

Consistent   Inconsistent
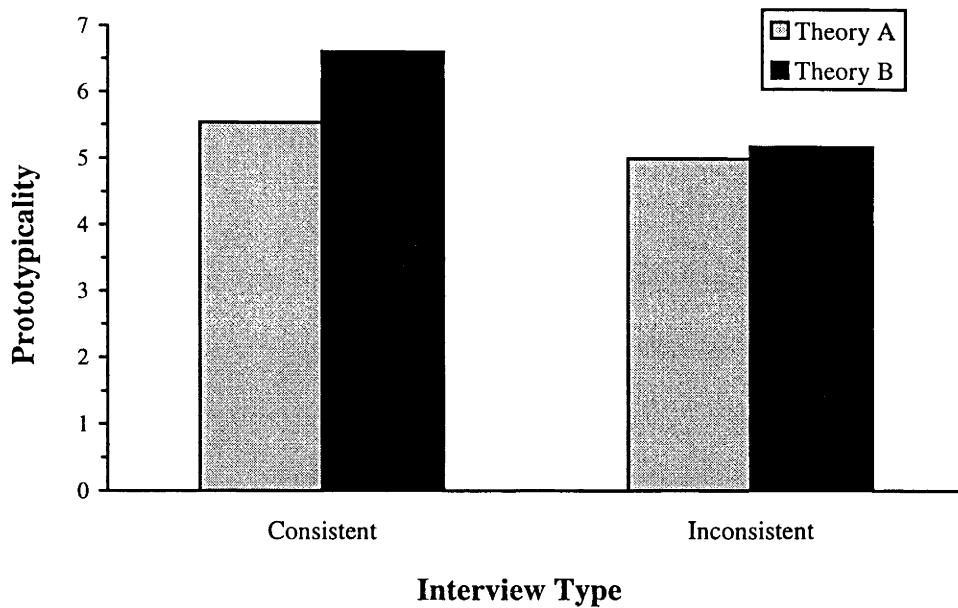
Interview Type

Figure 11.1 Mean prototypicality scores across theory and interview type:
Experiment 7

Overall, the <u>consistent</u> stimulus person was seen as more prototypical of the category 'long-term' unemployed than the <u>inconsistent</u> stimulus person. A priori predictions were tested in terms of planned pair-wise contrasts applying Sidak's multiplicative inequality to control the error rate[28]. The assumption of homogeneity of variance may have been violated for the overall ANOVA, Cochran's $\underline{C}(12,4)=.48$, $\underline{p}<.05$, and therefore contrasts were carried out using the separate variance estimate. For those participants presented with the <u>consistent</u> interview, there was a significant difference found across theory type such that participants given Theory B judged the target person to be more prototypical compared to those participants given Theory A ($\underline{M}$'s=6.61 vs. 5.40), $\underline{t}(23)=2.83$, $\underline{p}<.05$. For those participants presented with the <u>inconsistent</u> interview there were no significant differences across theory-type ($\underline{M}$'s=5.18 vs. 5.00), $\underline{t}(18.5)=.26$, $\underline{p}>.05$. Although the overall main effect for interview-type was significant, neither of the planned contrasts across interview type reached significance, $\underline{t}(22.9)=1.13$, $\underline{p}>.05$ (consistent interview), and $\underline{t}(14.1)=2.28$, $\underline{p}>.05$ (inconsistent interview).

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[28] Note that with four contrasts, 23 degrees of freedom and $\alpha=.05$, one-tailed, the critical t-value based on Sidak's multiplicative inequality is 2.37 (Rohlf & Sokal, 1981).

Stereotype content

Stereotype content was assessed by means of a Katz-Braly type checklist. We predicted that there would be differences in stereotype content across theory-type with different theories reflected in different content and attributions for unemployment. The percentage of participants in each condition marking each adjective was calculated. We also looked at the percentage of participants from a pretest who marked each adjective. These participants judged the long-term unemployed without the context of a theory or a stimulus person. Table 11.4 below indicates the words most frequently chosen to characterise the category long-term unemployed across all conditions, and in the pretest.

Table 11.4

Percentage of participants choosing adjectives characterising long-term unemployed across interview type and theory-type, and in the pretest: Experiment 7

Interview:	Consistent		Inconsistent		Pretest
Theory:	A	B	A	B	
N:	13	12	14	11	16
unlucky	38	50	93	91	75
unmotivated	62	92	43	55	69
underprivileged	62	25	71	45	50
dependent	54	50	43	45	38
whingeing	23	32	14	-	13
ignorant	31	25	7	9	6

Note: Only traits marked by at least 30% of participants in at least one condition included, - = <30%

Turning our attention firstly to traits chosen in the pretest, when no theory or stimulus interview was present, we can see the four most frequently chosen traits were unlucky, unmotivated, underprivileged and dependent. It is interesting to note that this characterisation of the long-term unemployed contains elements of both types of explanations for unemployment. The traits unlucky and underprivileged seem to be connected to a more external (or social) attribution for the causes of unemployment

whereas the traits unmotivated and dependent are linked to a more internal (or individualistic) explanation or attribution. It can be seen from above that there were some differences in stereotype content across experimental conditions. Overall, compared to participants presented with Theory B, participants presented with Theory A were less likely to characterise the unemployed as unmotivated, and more likely to characterise them as underprivileged. These differences were especially pronounced for those participants presented with the consistent stimulus interview. For example, in this condition 92% of participants presented with Theory B characterised the unemployed as unmotivated compared to only 62% of those given Theory A. Likewise, 62% of those given Theory A saw the unemployed as underprivileged compared to only 25% of those given Theory B. There were also some apparent differences in stereotype content across stimulus interview type, the most striking one being for the trait 'unlucky' with almost all participants (92%) presented with the inconsistent interview characterising the unemployed this way compared to only 44% of those presented with the consistent interview. Characterisations of the long-term unemployed in all conditions appeared to be somewhat different from those obtained at pretest.

We attempted a more systematic analysis of the traits chosen based on the method employed by Haslam et al. (1992) and that employed in Experiments 3, 4 and 5. We predicted that stereotype content should be consistent with the type of theory generated by participants. Those presented with Theory A tended to produce 'external' or 'social' theories for success; that is, they attributed success to factors beyond an individual's control. Those presented with Theory B tended to produce more 'internal' or 'individualistic' theories for success; that is, they attributed success to factors within the individual's control. We predicted that those participants who generated a more 'external/social' theory for success should stereotype the long-term unemployed in terms of content consistent with that theory (and likewise for those who produced a 'internal/individualistic' theory). To test this prediction, we asked five independent participants to choose from the original checklist those words consistent with a person who is unemployed for reasons to do with them personally (internal words) and those

words consistent with a person who is unemployed for reasons beyond their control (external words). Using the ten most commonly chosen internal and external words, an 'internal' content and an 'external' content score was computed for each participant by scoring +1 for each internal trait chosen and +1 for each external trait chosen; all other traits chosen were scored as zero. For each participant we calculated an overall 'internal' content score (values between 0 and +5), an overall 'external' content score (values between 0 and +5). A plot of the mean values for the internal content scores across conditions appears in Figure 11.2 below:
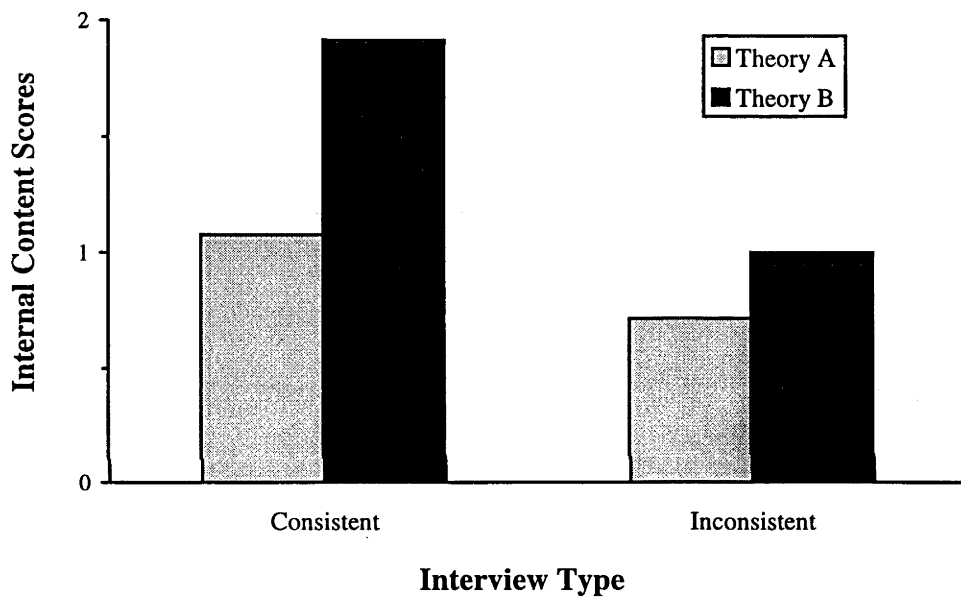
Figure 11.2 Mean internal content scores for the long-term unemployed across conditions: Experiment 7

A 2 (theory type: A/B) x 2 (interview type: consistent/inconsistent) ANOVA of the mean internal content scores yielded a significant main effect for interview type, $F(1,46)=6.73$. $p<.02$, and a significant main effect for theory-type, $F(1,46)=5.21$, $p<.03$. Four pairwise contrasts were carried out applying Sidak's multiplicative inequality to control for the error rate[29]. As might be expected, use of internal content was higher in the consistent interview condition versus the inconsistent interview condition. However, this difference was only significant for those participants given Theory B, $t(46)=2.52$,

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[29] Note that with four contrasts, 46 degrees of freedom and $\alpha=.05$, one-tailed, the critical t-value based on Sidak's multiplicative inequality is 2.30 (Rohlf & Sokal, 1981).

p<.05. Those participants given Theory B tended to produce 'internal/individualistic' theories to explain success and thus there is good fit between their theory and 'internal' content. This fit appears to be accentuated in the consistent interview condition where there is also good fit between their theory and the stimulus person.

We predicted that stereotype content would vary with the type of theory made accessible. Therefore, we would predict that 'internal' content applied to the category long-term unemployed should be higher for those presented with Theory B versus Theory A. This was shown to be the case; however, the difference was only significant in the consistent interview condition, $t(46)=2.42$, $p<.05$

We also analysed mean 'external' content scores. A plot of these across conditions appears in Figure 11.3 below:
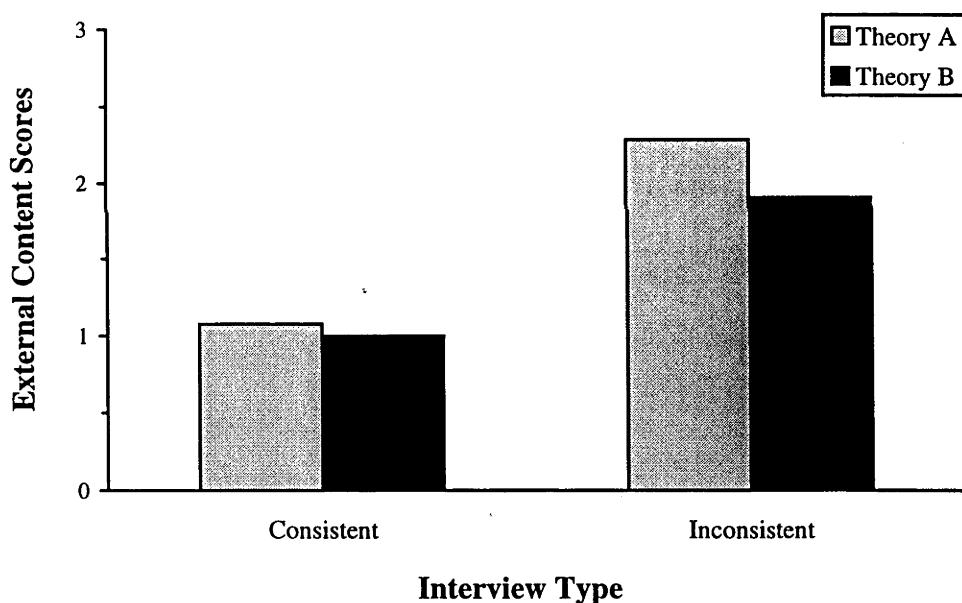
Figure 11.3 Mean external content scores for the long-term unemployed across conditions: Experiment 7

A 2 (theory type: A/B) x 2 (interview type: consistent/inconsistent) ANOVA of the mean external content scores yielded a significant main effect for interview type only, $F(1,46)=17.43$. $p<.001$. Overall, participants presented with the inconsistent stimulus interview characterised the long-term unemployed more in terms of external content compared to those presented with the consistent interview.

While it appears that those participants given Theory A used more external content than those given Theory B, these differences were not significant.

Content applied to stimulus person

We also looked at the frequency with which traits were chosen to characterise the stimulus person. Table 11.5 below indicates the words most frequently chosen to characterise the stimulus person, 'Dave', across all conditions.

Table 11.5

Percentage of participants choosing adjectives characterising stimulus person across interview type and theory-type: Experiment 7

Interview:	Consistent		Inconsistent	
Theory:	A	B	A	B
N:	13	12	14	11
unmotivated	91	100	8	0
unemotional	64	17	-	-
lazy	45	58	-	-
ignorant	36	33	-	10
dependent	36	33	-	10
unreliable	36	25	-	-
whingeing	27	50	-	-
straightforward	9	33	21	20
persistent	-	-	64	70
practical	9	-	57	20
intelligent	-	-	43	70
methodical	-	-	43	30
unlucky	18	8	36	80
honest	9	-	36	40
sportsmanlike	-	-	21	30
educated	-	8	14	30

Note: Only traits marked by at least 30% of participants in at least one condition included, - = <30%

The most striking differences are across stimulus interview type as might be expected. Overall those presented with the <u>consistent</u> interview had a much more negative impression of Dave, characterising him as unmotivated, unemotional, lazy, ignorant, dependent, unreliable, whingeing and humourless. By comparison, those participants presented with the <u>inconsistent</u> interview characterised Dave as persistent, practical, intelligent, methodical, unlucky, honest, alert, sportsmanlike, and educated.

There were also some more subtle differences apparent across theory-type. Looking firstly at the <u>consistent</u> interview condition, it is apparent that those given Theory A were more inclined to characterise Dave as 'unemotional' (64% vs. 17%) whereas those given Theory B were more inclined to see him as 'whingeing' (50% vs. 27%). For those participants presented with the <u>inconsistent</u> stimulus interview, those with Theory A were more inclined to characterise Dave as practical (57% vs. 20%) whereas those given Theory B were more inclined to see him as unlucky (80% vs. 36%), intelligent (70% vs. 43%) and educated (30% vs. 14%). Because in some cases there were either no internal or no external traits chosen for the stimulus person, rather than analysing internal and external scores separately, we calculated an overall 'internal/external' content score for each participant by subtracting external scores from internal scores (values between -5 and +5, with a positive meaning a more 'internal' characterisation, and a negative score meaning a more 'external' characterisation). A plot of the mean scores on this new variable across conditions appears in Figure 11.4 below.

As might be expected, participants given the <u>consistent</u> interview made much more internal characterisations of the stimulus person than those given the <u>inconsistent</u> interview (reflecting the differing content of these two interviews). A 2 (interview type) x 2 (theory type) ANOVA of the mean 'internal / external' scores revealed a significant main effect for interview type, $\underline{F}(1,46)=223.74$, $\underline{p}<.001$, and a significant theory by interview type interaction, $\underline{F}(1,46)=4.57$, $\underline{p}<.04$. As can be seen from the above figure, for those participants given Theory B the differences across interview type were greater than for those given Theory A.
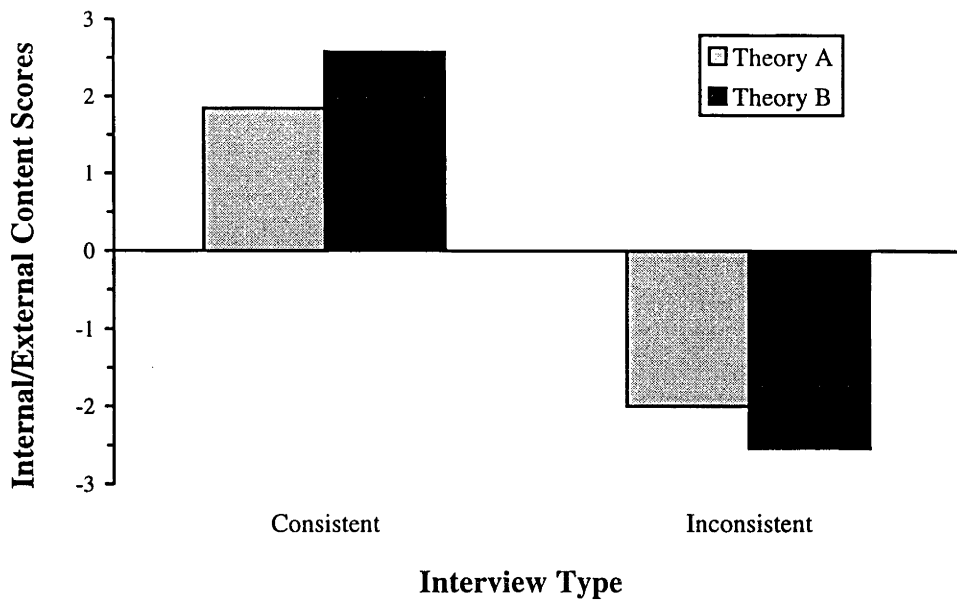
Figure 11.4 Mean internal/external content scores for the stimulus person across conditions: Experiment 7

Discussion

Overall support was found for the major predictions of this experiment. The first prediction concerned differences in the perceived prototypicality of the target stimulus person of the category long-term unemployed across theory-type. For those participants presented with the consistent stimulus interview (which contained the more prototypical stimulus person based on results of a pretest), there were significant differences in prototypicality across theory type. Overall, participants presented with Theory B saw the stimulus person in this interview as <u>more</u> prototypical of the category long-term unemployed than those participants presented with Theory A. However, for participants presented with the inconsistent stimulus interview, no differences were found in perceived prototypicality across theory type.

The second major prediction of this study concerned differences in stereotype content across theory-type. Again, there was support for this prediction. Generally, participants in the Theory A condition were more inclined to characterise the unemployed as underprivileged and less likely to characterise them as unmotivated compared to those in the Theory B condition. Participants given Theory B were significantly more likely to characterise the long-term unemployed in terms of 'internal' content compared to

participants given Theory A. However, characterisations in terms of 'external' content did not differ across theory-type. We also found large differences in stereotype content across interview-type. Across both theories, the most frequently chosen trait to characterise the unemployed for participants given the consistent interview was unmotivated, whereas for those given the inconsistent interview it was unlucky. Indeed, almost all the participants given the inconsistent interview characterised the unemployed as unlucky. It appears that the stimulus interview itself influenced participants' subsequent stereotype of the unemployed. Those given the inconsistent interview tended to characterise the long-term unemployed in terms of more 'external' content and less 'internal' content compared to those given the consistent interview. Thus, it appears that the meaning of the category long-term unemployed may have changed in response to information presented in the stimulus interview.

In this experiment we aimed to demonstrate that there would be consistency in the types of theories generated within conditions and differences across conditions. In general, there appeared to be a considerable amount of consistency in the alternative types of theories generated by participants within conditions. There were clear differences in the types of theories generated between conditions. Measures of perceived similarity to others who disagreed with the initial theory (or agreed with it) indicated that participants saw themselves as more similar to those who disagreed compared to those agreed. This suggests that our manipulation was successful in getting participants to self-categorize as members of an ingroup in comparison to an outgroup.

Thus, the results of this experiment provide further support for the role of background theories in the stereotyping process. One of the most interesting results was the finding that the same stimulus person (who had previously been judged to be highly prototypical of the category long-term unemployed) could be judged to be differentially prototypical of the same social category, depending on the type of background theory which was made accessible. As discussed earlier, previous research has shown that judgements of prototypicality are context-dependent. The current research suggests that they are also theory-dependent. In the current experiment, context was not manipulated

and differences in judged prototypicality were found across theory-type. The fact that these differences were found for the 'consistent' stimulus person lends further support to our position that the consistency between persons (or traits) and categories is theory-dependent.

The type of theory appeared to have no effect on judgements of prototypicality when the stimulus person was inconsistent. In this condition we expected that those given Theory B would not judge the stimulus person to be highly prototypical of the category long-term unemployed (as was found). However, we expected that those participants given Theory A should see this stimulus person as prototypical of this category. This was not found. The reason for this may be to do with the fit between the stimulus person and the theory/category. The theories generated in this condition generally argued that not everyone has the same opportunities in life and that circumstances can stop some people from succeeding. Likewise, if we look at the content chosen to characterise the long-term unemployed in this condition, the two traits chosen by more than 50% of participants were unlucky and underprivileged. In contrast, the two traits chosen to characterise the stimulus person by more than 50% of participants were persistent and practical. Similarly, the manipulation checks showed that the stimulus person in this condition was seen in very positive terms (participants liked the stimulus person). Thus, while the category 'long-term unemployed' was characterised as unfortunate, the stimulus person was seen very positively. Thus, there appears not to have been good fit between the category and the stimulus person in this condition. This may explain the lack of effects for theory-type in the inconsistent interview condition — neither theory provided good fit with the stimulus person.

The other interesting finding in this experiment was differences in stereotype content across theory type. This was especially apparent for 'internal' content. Participants tended to characterise the long-term unemployed in terms of content that was consistent with their theory. Thus, those given Theory B saw the unemployed in more 'internal' terms (consistent with their theory) compared with those given Theory A. Therefore, this experiment demonstrates that theories can influence not just the degree to which a

specific content is applied to a category (as per previous experiments) but also the type of content applied to a category. Therefore, the current experiment lends further support to the notion that stereotype content is not only context-dependent but also theory-dependent.

There were also large differences in stereotype content across stimulus interview type. Specifically, those presented with the consistent interview tended to characterise the long-term unemployed in more 'internal' terms whereas those presented with the inconsistent interview tended to characterise the long-term unemployed in more 'external' terms. While differences in content across interview type seemed to make sense, the results are interesting to consider in light of previous research on stereotype change. As discussed in Chapter 3, much of the research in this area has suggested that it is quite difficult to change stereotype content by presenting disconfirming information, and that usually this information will only be effective if it is dispersed across group members who are otherwise seen as typical of the category (e.g., Johnston & Hewstone, 1992; Johnston et al., 1994). In the current experiment, stereotype change appears to be occurring in response to a single disconfirming stimulus person. It appears that the presentation of the disconfirming stimulus person led participants to revise their stereotype of the long-term unemployed. This appears to be more consistent with the 'conversion' model of stereotype change (Rothbart, 1981).

Likewise, the presentation of the inconsistent stimulus interview may have stimulated participants to think more about the reasons for unemployment and may subsequently have changed the meaning of this category. Thus, it is possible that a type of 'theory-generation' took place throughout the study, and not just in response to our intended manipulation. This could have impacted on the lack of effects for theory type in the inconsistent interview condition. The results of this experiment suggest that theory-generation may be a complex and highly variable phenomenon and that the theories people employ may change quite rapidly. This is consistent with the argument that people's background knowledge contains contradictions and inconsistencies that may be

resolved in response to any given judgement but does not contain any constant representation in an ongoing fashion.

Interestingly, there appeared to be some difference in the traits chosen to characterise the stimulus person across theory type. Most strikingly, for participants given the inconsistent interview, those with Theory B were more inclined to characterise Dave as unlucky, intelligent and educated. According to their theory, these participants believe that with hard work and ability anyone can succeed. Dave appears to fail despite his hard work and ability. Therefore he must be extremely unlucky. Also his intelligence and education are emphasised, indicating that his lack of unemployment cannot be attributed to his personal failings but rather externally. Characterisations of Dave tended to be more external for those given Theory B and the inconsistent interview compared to those given Theory A. It appears that even though these participants had generated theories tending to attribute success to internal factors they attributed Dave's lack of success to external factors.

In conclusion, this experiment demonstrated that both perceived prototypicality and stereotype content can vary with different background theories, that are linked to salient self-categorizations. This lends further support to the argument that the meaning and content of categories are not only context-dependent, but also theory-dependent.

Chapter 12

Implications and Conclusions

This thesis has sought to develop an analysis of the formation of stereotype content. It has done so by applying self-categorization theory's account of category salience to the issue of category formation and content formation. Specifically, it has considered how stereotype content forms to reflect an interaction between comparative and normative fit. In doing this, we have elaborated upon the concept of normative fit and linked it to an understanding of how our broad background knowledge and theories influence social stereotyping. Likewise, the work of this thesis has developed the self-categorization theory analysis of social categorization and social stereotyping.

The aims of this thesis were threefold. Firstly, we aimed to demonstrate how comparative and normative fit operate together to produce stereotype content. Specifically, we have argued that stereotype content reflects comparative differences between groups that are also normative or meaningful. Importantly, content should not reflect comparative differences that are not normative, or normative expectations that are not accompanied by comparative differences. Experiments 1, 2, 3, 4, and 5 addressed this aim of the thesis.

Our second aim was to demonstrate that while the normative direction and meaning of group differences is important, there is not a fixed consistency or fit between specific content and social categories. Specifically, we aimed to demonstrate that the consistency or fit between an attribute and a category can vary with background knowledge and theories. Thus, normative fit should not be conceptualised as a fixed set of expectations or content about a category; rather, normative fit is interpreted within the framework of broader knowledge and theories. Experiments 5, 6, and 7 all addressed this aim of the thesis.

The third aim of the thesis was to demonstrate that background knowledge and theories are broader than individual schemas or individual personality differences. It was argued

that people have a broad range of theoretical knowledge to draw upon, and which part is used on any one occasion will depend upon which part of that knowledge is made accessible. The knowledge applied will be linked to salient self-categorizations. This knowledge will influence subsequent stereotype content and shape the meaning of social categories. Experiments 6 and 7 addressed this final aim of the thesis.

In this chapter we begin by reviewing the theoretical arguments made in this thesis and the empirical findings of the studies performed. Following this review, we will consider the theoretical implications of what this thesis has found in relation to the three aims outlined above. Finally, we will discuss some possible future directions for research in this field and conclude with some final comments.

Review of thesis

Chapters 2 to 5 of the thesis reviewed the stereotyping literature with respect to the issue of stereotype content formation. In Chapter 2, 'early' approaches to stereotyping and content were considered. In particular, this chapter considered the beginnings of the cognitive analysis of categorization and stereotyping which later approaches built upon. We began by reviewing early 'checklist' studies of stereotype content, the 'kernel of truth' debate, personality-based approaches to prejudice, and early psychological accounts of stereotyping that considered the importance of the group in stereotype formation and application. We also reviewed the beginnings of the cognitive analysis of stereotyping, with Allport's work on the nature of prejudice. This analysis was expanded and concretised by Tajfel and colleagues via their work on accentuation effects resulting from categorization (e.g., Tajfel & Wilkes, 1963) and ingroup bias in the minimal group paradigm (Tajfel et al., 1971).

In terms of the concerns of this thesis, the work by Tajfel and colleagues is important for a number of reasons. Three points in particular are especially relevant to the arguments and analysis made in this thesis. Firstly, this work introduced the idea that the basic cognitive process involved in stereotyping is categorization — therefore, to understand stereotyping we must understand categorization. Secondly, it demonstrated

that it is those dimensions that are correlated with a division into distinct categories that form stereotypes. Thus, stereotype content, seen as the accentuation of differences between groups and similarities within groups, should reflect those dimensions that are correlated with a division into groups. Thirdly, this work argued that accentuation will only occur in terms of <u>relevant</u> dimensions — thus only differences between groups that are somehow associated with the division into groups will be reflected in stereotype content. Thus, stereotype content is connected with both the <u>degree</u> of differentiation between groups and the <u>nature</u> of the dimensions on which differences between social groups are accentuated.

In Chapters 3, 4, and 5, three 'contemporary' approaches to stereotyping were reviewed with respect to how they explain stereotype content. Chapter 3 reviewed approaches to stereotype content from within the social cognition tradition. In this approach, stereotypes are conceptualised as relatively fixed cognitive structures, which have content associated with them. Thus, a distinction is made between the formation of stereotype content (how content comes to be initially associated with a cognitive stereotype) and the application of that content to any given social judgement (how and when the content associated with a stereotype is applied). Stereotype content is argued to form largely via bottom-up or data-driven processes. When it comes to stereotype application, however, top-down processes are argued to dominate. Stereotypes, once formed, tend to be quite resistant to change and tend to act in favour of their own confirmation. Thus, they tend to bias the encoding, recall and use of information in favour of their maintenance.

The activation and application of stereotype content starts with the categorization of a stimulus object. Initial categorization is argued to be determined by salient cues, priming (e.g., via category labels) and accessibility. If features of the stimulus fit the activated category then it will be stereotyped in terms of that category (i.e., the content associated with that category will be applied to it). Good fit occurs when the features of the stimulus are similar to the features of the stored category. Thus, the application of a stereotype is determined by category-attribute fit and the interpretation of fit is biased

towards category confirmation. If activated stereotypes can possibly be confirmed, they will be. This implies that stereotype-inconsistent information will often be assimilated into the pre-existing stereotype. However, if inconsistent information does not fit the initial stereotype, and cannot be made to do so, then impressions formed will tend to be more individuated (and data-driven) and less categorical (Fiske & Neuberg, 1990). Alternatively, when faced with inconsistent exemplars, perceivers may sub-type these exemplars and maintain their initial stereotype. Only if the inconsistent exemplars are seen as otherwise typical of the initial category (and are dispersed rather than concentrated) is change in the initial stereotype argued to occur to accommodate the inconsistent information.

Thus, in Chapter 3, the following important points emerged with respect to the formation of stereotype content: (a) stereotype content formation and application are conceptualised as separate and distinct processes; (b) while formation tends to be based on bottom-up processes, application tends to be based on top-down processes; (c) the application of stereotype content is determined by the fit between the stimulus and the category, and this in turn is determined by the perceived similarity between features of the stimulus and the category. Importantly, from this perspective fit appears to be seen as a fairly fixed property of the stimulus defined in relation to a category (Spears & Haslam, 1997). Since categories are seen as fixed, enduring cognitive structures, what is considered as consistent or inconsistent with them, typical or atypical, fitting or not fitting, is also considered to be fixed, and determined by the expectancies associated with the category.

Chapter 3 outlines an approach to stereotyping which is based largely around the operation of individual cognitive processes. The research reviewed in Chapter 4 takes a more collective approach to stereotyping and stereotype content. In particular, the approaches covered in Chapter 4 have been critical of the social cognitive approach and its emphasis on individual cognitive processes to the exclusion of content. Perspectives such as social representations theory have taken the content of cognitions as their focus and have emphasised that content is shared within groups and within society via

processes of social communication. This approach views stereotyping largely as a 'top-down' process whereby data is interpreted in terms of social representations. In many respects these are similar to schemas; however, they have a social and consensual basis. Discursive social psychology has emphasised the variability of content both between and within groups, and within individuals. They argue against the notion of fixed cognitive structures which 'contain' category content; they suggest that content is variably constructed via discourse to serve strategic ends for individuals and groups. We have suggested that both these approaches, while taking content as their focus, fail to adequately predict content and provide a psychological analysis of content formation.

In Chapter 5 we turned our attention to the third major contemporary approach to stereotyping which we have termed interactionist. The research reviewed in this chapter was mainly conducted from the perspective of self-categorization theory. For self-categorization theory, stereotyping is intimately tied up with the categorization process. Categorization is argued to be a comparative and context-dependent process. In accordance with the principle of comparative fit, categories form so as to maximise inter-class differences and minimise intra-class differences (meta-contrast). However, a full understanding of categorization also takes into account both the accessibility of categories and the normative content of categories. Self-categorization theory has applied an 'accessibility x fit' hypothesis to understanding category salience and argues that given appropriate accessibility or perceiver readiness, salience reflects an interaction between comparative and normative fit, where normative fit refers to the 'match' between category specifications and the perceiver's background knowledge and theories about that category.

The same principles that explain categorization can be applied to an explanation of the content of categories (or stereotypes). Thus, from the perspective of self-categorization theory, the formation of stereotype content can be explained in terms of the principles of perceiver readiness, comparative and normative fit. The principle of comparative fit implies that the content of stereotypes is flexible and context-dependent, and in Chapter 5 we have reviewed evidence supportive of this position. Normative fit points us

towards the role of expectations, theories and background knowledge in determining stereotype content. In Chapter 5 we expanded upon how theories and knowledge have been treated in cognitive psychology and examined emerging evidence from social psychology suggesting the importance of broad knowledge structures in influencing the interpretation and categorization of stimuli. Finally, in Chapter 5 the role of collective factors in determining stereotype content was discussed.

In Chapter 6 we attempted to draw together the research reviewed in the previous four chapters into a theoretical account of the formation of stereotype content. This was done in terms of two main issues. The first issue concerned the role of bottom-up versus top-down determinants of stereotype content. The second issue concerned the role of individual versus collective factors in the formation of stereotype content. In terms of the first issue, we contrasted the positions outlined by the social cognition approach and by self-categorization theory. The social cognition perspective makes a distinction between the formation and the application of stereotypes, with bottom-up processes dominating at formation and top-down processes dominating at application. Stereotypes are argued to form based on real or illusory correlations between social categories and observed behaviours. Once formed, these stereotypes (and their content) are stored as relatively fixed cognitive structures. These stereotypes influence the perception of subsequent stimuli and bias perception in favour of their confirmation. This perspective also makes a distinction between individuated and categorical impressions, with individuated impression argued to be data-driven and categorical impression theory-driven.

In contrast, self-categorization theory sees all impressions as being categorical. Likewise, it makes no distinction between the formation and application of stereotype content, with these two things being elements of the same process, namely the categorization process. Thus, stereotype content is applied as it is formed. This means that stereotypes and their content are not conceptualised as fixed, enduring cognitive representations of social groups. Rather they are actively constructed to reflect an interplay between theory and data. This interplay is conceptualised in terms of the

interaction between comparative and normative fit. Stereotype content is the perceived similarities within groups and differences between groups on relevant dimensions. The perception of these similarities and differences is argued to be both context-dependent (reflecting comparative fit) and theory-dependent (reflecting normative fit).

The second issue discussed in Chapter 6 concerned the role of individual versus collective factors in determining stereotype content. Self-categorization theory argues that stereotyping is a function of individual cognitive and social, group-based factors operating in interaction with each other. Stereotype content is socially determined in two senses: firstly, content is derived from shared beliefs such as theories, and secondly, social processes influence the cognitive processes that in turn determine content. Shared beliefs, such as theories, arise within social groups. Our self-categorizations as members of a given social group will determine what shared knowledge is brought to bear upon a given social judgement, and these self-categorizations themselves are context- and theory-dependent just as categorizations of others are. Thus, from a self-categorization theory perspective, stereotype content is determined by knowledge and theories shared within social groups. However, as salient self-categorizations vary so will the knowledge and theories that are most relevant. Therefore, this perspective can account for the variability of stereotype content between groups, within groups and within individuals at different times.

At the conclusion of Chapter 6 we outlined our theoretical account of the formation of stereotype content, and the theoretical and empirical aims of the thesis. Specifically, we have argued that an account of stereotype content formation needs to incorporate both theory and data, and individual and collective factors. Stereotype content forms to reflect an interaction between stimulus data and background knowledge and theories. Content reflects the application of background knowledge and theories to the representation and interpretation of a stimulus reality within a specific comparative context. Background knowledge and theories derive from the ingroup. Our self-categorization as ingroup members is in turn determined by the comparative context

operating. The flexibility of the categorization process means that stereotype content is itself flexible and varies with context and with theories/knowledge.

Three theoretical and empirical aims of the thesis were outlined. The first aim was to elaborate upon the interaction between theory and data in determining stereotype content. Specifically we aimed to investigate the role of comparative and normative fit in determining stereotype content and to demonstrate that content reflects an interaction between comparative and normative fit. The second aim of the thesis was to elaborate on the concept of normative fit in terms of its link to background knowledge and theories. Specifically we aimed to demonstrate that normative fit is more than a fixed expectation about the content of a social category; rather the fit between content and category is both context- and theory-dependent. Thus, the content that is considered to be consistent with a given social category is not fixed but varies with background knowledge and theories. The third and final aim which the thesis addressed was to consider the variability of theoretical knowledge and its link to salient self-categorizations. We aimed to demonstrate that different types of theoretical knowledge have different effects upon stereotype content, and that the accessibility of theoretical knowledge can vary.

Chapters 7 to 11 outlined a program of research which sought to address the above aims. Experiments 1 and 2 were outlined in Chapter 7. They addressed the first aim of the thesis. Experiment 1 manipulated the level of comparative fit (high or low) between attributes (intelligence and friendliness) and groups, and looked at the subsequent stereotyping of groups in terms of those attributes. In general, it was found that participants tended to differentiate between groups relatively more in terms of the attribute for which there was higher comparative fit. However, this effect was found to be much stronger for the friendliness dimension compared to the intelligence dimension. Interestingly, groups as described highly friendly and moderately unintelligent were judged in more positive terms than those described as highly intelligent and moderately unfriendly. This suggests that, while there was no explicit normative fit operating in this

experiment, participants appeared to have implicit expectations about the nature of the groups, and their relative positivity.

Experiment 2 was largely a replication of Experiment 1 with the addition of a normative variable. Specifically, groups were given labels (chess players and tour guides) that were either consistent with attributes describing them (intelligence and friendliness) or inconsistent. Results showed that participants stereotyped significantly more in terms of differentiating attributes when labels were consistent with intergroup differences compared to inconsistent. Therefore, given comparative fit, more stereotyping occurred when there was good normative fit compared to counter-normative fit. However, a predicted interaction between comparative and normative fit was not found. Given good normative fit, there were no significant differences in stereotyping across degrees of comparative fit.

Chapter 8 outlined Experiments 3 and 4 which largely replicated Experiments 1 and 2 with some changes to methodology and dependent variables. An important change to these experiments was that before completing dependent variables participants were asked to write a short 'explanation' for the behaviours of the people in the two groups. The results of Experiment 3 were very similar to Experiment 1 with participants differentiating between groups relatively more in terms of the dimension for which there was higher comparative fit and with this effect again being stronger for the friendliness versus intelligence dimension. In addition, the highly friendly and moderately unintelligent group was seen in highly positive terms and the highly unfriendly/moderately intelligent group seen in highly negative terms as might be expected. However, the highly intelligent/moderately unfriendly and highly unintelligent/moderately friendly groups were both seen in moderately positive terms. This suggests that the traits intelligence and friendliness may impact upon the interpretation of each other, with friendliness being the dominant dimension in terms of forming impressions.

While Experiment 4 was designed to replicate Experiment 2, a quite different set of results was found. In this experiment no significant results involving the 'label-type' variable (an operationalisation of normative fit) were found. We have suggested, in Chapter 8, that asking participants to write an explanation for the behaviours observed may have activated theories or knowledge which reconciled any apparent inconsistencies between group labels and behaviours. This possibility was backed up by an examination of the types of explanations generated by participants in this study.

In light of the contradictory results found in Experiments 2 and 4, Experiment 5 (as discussed in Chapter 9) was designed to further explore the role of comparative and normative in determining stereotype content and to investigate the influence that theory-generation may have upon the operation of normative fit. The experiment manipulated the level of fit (high/no normative/no comparative) between groups and the attribute 'friendliness', and whether participants generated a theory or not. The results showed clear differences in the level of stereotyping across comparative and normative fit. With no theory generation, participants stereotyped relatively more when both comparative and normative fit were operating together compared to when there was comparative fit but counter-normative fit, or normative labels but no comparative fit. We have argued that these results show that stereotype content reflects the effect of comparative and normative fit operating together. The influence of comparative fit depends on the level of normative fit and vice versa.

A different pattern of effects across the fit variable were found when a theory was generated— specifically no difference in the level of stereotyping between the high fit and no normative fit conditions. This appeared to be due to both a lower level of stereotyping in the high fit condition and a higher level of stereotyping in the no normative fit condition. An analysis of the types of theories generated in this experiment indicated that these fell mainly into two types — individualistic or personality-based versus social or group-based. Not surprisingly, different patterns of stereotyping were observed depending on the types of theories generated with 'social' theories tending to produce more stereotyping than 'individualistic' theories.

Chapter 10 of the thesis discussed Experiment 6, which aimed to expand upon the role of normative fit and theories in determining stereotype content. Specifically, it tested how different types of theories influenced the interpretation of the fit between social categories and behaviours. Participants were 'primed' with theories similar to those spontaneously generated in Experiment 5 (i.e., either fixed-personality or social-variable) or were not primed with any explicit theory. In addition, the labels given to social categories were manipulated such that they were either consistent or inconsistent with the behaviours presented about those groups. Results showed that levels of stereotyping varied with the type of theory which was initially activated. Specifically, when category labels were inconsistent, one type of theory (the fixed-personality theory) produced very little stereotyping whereas the variable-social theory produced stereotyping at levels equivalent to those observed when category labels were consistent. As argued previously, stereotyping in terms of a trait is hypothesised to occur when there is good fit between the trait and the category. In this experiment it appeared that the fit between the categories tour guide and chess player, and the attribute friendliness, varied with the type of theory made accessible. This suggests that the normative fit between a category and a trait is not fixed but theory-dependent.

In Chapter 11 we outlined the final experiment of this thesis, Experiment 7. We aimed in this study to demonstrate the influence of different types of theories upon stereotype content both in terms of the perceived prototypicality of a stimulus person with a given social category, and in terms of the traits applied to describe that social category. Participants generated two different types of theories about success (in response to a statement which they initially expressed disagreement with). We attempted to link these theories to self-categorizations as persons who disagreed with an initial statement compared to those who agreed with it. Theories generated were consistent within groups and differed between groups. Participants were then presented with a stimulus person who was either consistent or inconsistent with the category long-term unemployed. Judgements of the prototypicality of the stimulus person with the category varied across theory-type (although this was only found for the consistent stimulus person). Thus, the

same stimulus person was seen as more or less prototypical of the category 'long-term unemployed' depending on the type of theory being used. Variations in stereotype content were also found across theory-type with participants tending to characterise the category 'long-term unemployed' in terms of traits that fitted with their initial theory.

Overall, the empirical work of the thesis produced good evidence in support of our theoretical position. It appears that stereotype content reflects both the comparative and normative aspects of fit, and that stereotyping occurs when both of these variables are operating together. In addition, it appears that the normative fit between content and category is interpreted in light of a specific theoretical context and thus normative fit, and content, are variable and theory-dependent. Finally, the empirical work has demonstrated how different types of theories may be made accessible and the differing impact of these theories on normative fit, and the perceived prototype and content of categories.

Theoretical implications

The theoretical implications of the findings of this thesis are now discussed in terms of the three major aims of the thesis, namely: (a) to demonstrate how comparative and normative fit operate together to produce stereotype content, (b) to elaborate upon the concept of normative fit and demonstrate its relationship with background knowledge and theories and (c) to expand upon the nature of theories as diverse and socially-derived and shared pieces of knowledge. In this section we examine the implications of what this thesis has found in terms of those three aims. We begin, however, by considering how stereotype content and stereotype content formation have been conceptualised in this thesis.

One contribution of this thesis has been to clarify what is meant by stereotype content formation and to define what is meant by stereotype content from a self-categorization theory perspective. We have defined stereotype content as the nature in which, and the extent to which, a group of people are seen as similar to each other and different from some other relevant comparison group. Content is those attributes or dimensions on

which we perceive group members to be alike, and different from other groups. Thus, there are two aspects to content — its nature and its degree. The <u>nature</u> of content tends to depend upon normative fit, which determines whether we see certain types of attributes as fitting a given social category. The <u>degree</u> to which we perceive this attribute to be shared within a social category depends upon comparative fit, which when operating tends to accentuate similarities within and differences between groups. Of course, in practice, the nature and degree of content are always linked, just as are normative and comparative fit.

Our definition of content implies that it is context-dependent. We have argued that content forms to reflect an interaction between comparative and normative fit within any given context. This, in turn implies that content is not fixed but varies from context to context. Thus, we do not consider stereotype content formation to be the formation of a permanent set of traits that come to be cognitively associated with a social group, waiting to be activated at some subsequent time. Instead we have argued that content forms as it is used in response to a specific and unique interaction between theory and data. Stereotype content formation is the product of the process of social categorization. Thus the way in which we have approached content formation, which derives from the theoretical perspective employed, is somewhat different from past accounts of content. Importantly, in our view content is not a fixed sets of traits permanently associated with a social category and stored, waiting to be applied whenever that category is cued. Rather, we view content as variable and context-specific product of the categorization process, formed and used on any given occasion, but not existing in any permanent, ongoing form.

Turning now to the first aim of the thesis, namely to demonstrate that stereotype content reflects an interaction between comparative and normative fit. A contribution of this thesis has been to clarify the nature of the interaction that is predicted to occur between comparative and normative fit. An interaction means that the influence of one variable should depend upon the level of another variable (and vice versa). Thus, the influence of comparative fit upon stereotype content should depend upon the level of normative fit,

and the influence of normative fit upon stereotype content should depend upon the level of comparative fit. We have hypothesised that given high comparative fit, stereotyping will occur when there is also good normative fit but not when there is poor or counter-normative fit. This was demonstrated in Experiment 2 where it was shown that given the same level of comparative fit, participants stereotyped more when groups labels were consistent versus inconsistent. Likewise, Experiment 5 showed that with high comparative fit, more stereotyping occurred when labels were consistent versus inconsistent (given no theory-generation). The other prediction implied by an interaction is that given good normative fit, there should be more stereotyping when comparative fit is high compared to when there is no comparative fit. However, as has been discussed previously, normative fit is tied to comparative fit such that if there are no differences between groups (no comparative fit) there can be no normative fit. Thus, it makes no sense to talk of normative fit when there is no comparative fit, as normative fit concerns the nature of differences between groups (and similarities within groups). However, groups may have normative labels attached to them that imply some content for the groups, even if the groups do not differ from each other. In Experiment 5 we demonstrated that given the same normative labels for two groups, more stereotyping occurred when there was high comparative fit (consistent with those labels) compared to no comparative fit.

The experiments carried out in this thesis have demonstrated that stereotype content reflects an interaction between comparative and normative fit. That is, stereotype content reflects comparative differences between groups that are meaningful in terms of our expectations, background theories and knowledge about those groups. Comparative differences between groups, which are counter-normative, will contribute very little to stereotype content. Likewise, where no comparative differences exist between groups expectations about those groups will tend not be reflected in content if those expectations do not match 'reality' (i.e., real comparative differences). Thus, stereotyping should only occur when comparative and normative fit are operating together, and stereotype content reflects the operation of these two variables together.

Theoretically we have argued that no (or little) stereotyping in terms of a given trait should occur when either comparative or normative fit are absent. This implies that comparative and normative fit are always linked and operating together. We have argued above that normative fit cannot operate in the absence of comparative fit. Normative fit always relates to the <u>nature</u> and direction of differences between groups; thus these differences must first exist. A related question concerns whether comparative fit can operate in the absence of normative fit. Do differences between groups always imply some meaning and expectations associated with those differences? In Experiments 1 and 3, comparative fit was manipulated independently of normative fit and stereotyping in terms of the differentiating dimensions was observed. However, we have suggested that while normative fit was not explicitly manipulated in these experiments, an implicit normative fit may have been operating. For example, it appeared that the presentation of behaviours about groups that were both, say, unfriendly and intelligent, led participants to form expectations about the types of people that would be in these groups. The explanations produced in Experiment 3 suggested that participants formed quite distinctive impressions of the groups depending on which traits were used to describe them and how extreme these traits were. We would argue that comparative differences between groups always and necessarily imply some normative expectations about the nature of these groups. However, the same comparative differences may be interpreted differently depending upon the normative fit with these differences.

The second major aim of this thesis was to elaborate upon the concept of normative fit. Most importantly, it has been argued in this thesis that normative fit is not fixed but both context- and theory-dependent. Early definitions of normative fit may give the impression that it represents a rather fixed match with a stereotype about a social group and is similar to fit as outlined by models such as Fiske and Neuberg's continuum model (1990). For example, Oakes et al. (1991) in discussing normative fit state that the dimensions seen as fitting a categorization will be those "which correlate with the social categorization in a way that is perceived to be consistent with its substantive meaning,

its defining stereotypical and normative content" (p. 127). Likewise, in past research normative fit has been operationalised as the fit between content and expectations implied by category labels (e.g., Oakes et al., 1991). Research from the social cognitive perspective has argued that category labels can act to cue categories which have a stereotype cognitively associated with them. For example, if a group of people are described as 'doctors' this will cue a set of stereotypic expectations associated with that category label, and these in turn will bias the interpretation of subsequent information about that category (Fiske et al., 1987). However, normative fit should not be conceptualised as narrowly as a set of expectations about a social group. Indeed later definitions of normative fit make clear that it does not involve a simple matching process between, say, a category label and stored stereotype. Oakes et al. (1999) define normative fit as "the match between the content properties of stimuli and general 'background theories', normative beliefs about the substantive meaning of the category" (p. 59). This second definition is closer to the treatment of normative fit in this thesis. Importantly this definition implies that normative fit is related to background theories and knowledge.

We have argued in this thesis that normative fit does not represent a fixed expectation to which stimulus data is matched, or a fixed relationship between data and theory. Normative fit is variable and is both context- and theory-dependent. By saying normative fit is variable, we mean that the fit between a certain attribute and a certain category will not always be the same. Firstly, it depends on the comparative context; attributes that are normatively fitting of Americans when compared to Australians may not be the same as those that are normatively fitting when Americans are compared to Iraqis. In this thesis, we have been concerned with demonstrating that the interpretation of normative fit also depends upon the background knowledge or theory which is applied. Thus, for example, interpreting friendliness as consistent or fitting with the category 'tour guides' and not the category 'chess players' depends upon the theoretical context within which that judgement is made (see Experiment 6). We would argue that normative fit is <u>not the same thing</u> as background knowledge and theories, but that

normative fit is interpreted in light of knowledge/theories just as it is interpreted in light of context. Theories shape the meaning of categories by offering explanations of what traits do and do not make sense for that category.

While we have argued that normative fit should not simply be considered a match with a category label associated with a set of fixed expectations, we have used meaningful category labels as an operationalisation of normative fit. Like Wisniewski and Medin (1994) we believe that meaningful category labels can, at a simple level, activate theories and knowledge. The category label, tour guide, serves to activate beliefs, expectations and knowledge we have about tour guides. In this sense, category labels may act as low level theories. However, the set of beliefs/expectations/knowledge are quite broad and, importantly, the label tour guide could be associated with a different set of content given a different, broader theory (see Experiment 6). Thus, category labels do cue expectations/theories but may not always cue the same set of expectations/theories.

The above arguments concerning normative fit, and the previous arguments regarding the interaction between comparative and normative fit, suggest that the content of categories is not fixed. This has implications for category structure. It implies that social categories are not represented by a fixed prototype and that the 'meaning' of categories is also not fixed. Previous research has demonstrated that prototypicality is context-dependent. Likewise, it is also theory-dependent. The person seen as most representative or typical of a category should vary as the 'meaning' of that category varies. This meaning, in turn, varies with the theoretical context in which the category is interpreted. Thus, for example, the meaning of the category 'long-term unemployed' varies depending on whether we believe success has an individualistic or collective basis (see Experiment 7). In line with this variation, the person seen as being most prototypical of this category also varies. The same person can be considered more or less prototypical of the same category depending on the theory being employed. This suggests that categories are not cognitively stored with a fixed structure but that categories are actively constructed to represent reality as interpreted in light of relevant theories.

The third aim of this thesis was to expand upon the nature of theories. We wish to distinguish theoretical knowledge from schemas or stereotypes that may be associated with certain social groups. We have argued that, in contrast, theoretical knowledge is quite broad and diverse, and may even contain inconsistencies and contradictions. The knowledge that is brought to bear upon any given social judgement may represent only a sub-set of the total store of knowledge that could be drawn upon. This implies that the theories used on any given occasion may be quite variable. We have argued previously that such theories can vary both within and between persons. In Experiment 5 participants generated a range of explanations to account for the same set of data, indicating variability in theories between persons. In Experiment 6, participants who had been randomly assigned to theory-type, were willingly to accept and make use of opposing types of theories. Presumably there was nothing 'special' about the people in these groups which made them more likely to endorse one type of theory versus the other, and, if selected for the other group, would have endorsed and applied the theory presented to that group. It would appear that most people have access to a fairly broad store of knowledge and will be aware of contradictory arguments. Which parts of that knowledge are applied will depend upon which parts of that knowledge is made accessible and is relevant. In Experiment 6 we attempted to make different types of theories accessible to participants by presenting them in a convincing fashion and making them personally relevant for participants. We do not see different types of theories as personality-type variables via which different types of people perceive and interpret the world in different types of ways.

The theories which individuals employ, however, are often tied to group memberships. An important distinction between theories and, say, schemas, is that the former are collectively produced. We are likely to employ those theories which are endorsed by our ingroup and thus the content of stereotypes produced by ingroup members should be consensual. In Experiment 7 we attempted to make participants' self-categorizations salient as persons who disagreed with a certain ideological perspective compared to those who endorsed it. The subsequent theories produced by participants tended to be

quite similar within groups and different between groups, and different stereotype content was produced depending on the initial type of theory generated.

Importantly, we do not conceptualise theories as either an individual difference variable or as a type of cognitive bias. We do not believe that some types of people hold one type of theory about the world while another type holds an opposing theory. Such ideas hark back to individualistic accounts of ideology such as the authoritarian personality. Instead we believe that the theories applied on any one occasion are drawn from a broad and diverse store of knowledge. The theories that are applied on any occasion will be determined by accessibility and this in turn may depend upon our salient self-categorizations. Likewise, we do not believe that certain types of theories inevitably lead to stereotyping while others do not (e.g., entity theories or 'essentialist' theories). Instead, we would argue that many different types of theories may produce stereotyping provided they allow us to find a fit between data and a category.

Another interesting and fundamental question concerns the exact nature of background theories; that is, what exactly is a theory? The term, as we have used it, encompasses other terms such as explanations, beliefs, ideologies and knowledge. While there is as yet no definitive answer as to what may be considered a theory or not, we believe some possible defining characteristics have been outlined above — namely, that they are diverse knowledge structures which are broader than categories and which are collectively produced and transmitted. Another important feature is that theories may be concerned with both content and process. They may tell us something specifically about the content of a category (e.g., that tour guides are generally friendly because of the job they do). They may imply something more abstract about content (e.g., people's personalities determine the jobs they find themselves in, thus we would be unlikely to find a group of unfriendly tour guides). Finally, they may tell us something about how we should perceive the world (e.g., that is inappropriate to stereotype others about whom we have only limited information, see social judgeability theory). In respect to this final point, theories may be likened to metacognitions (Jost, Kruglanski & Nelson,

1998). Thus, we believe background theories should not simply be considered as reservoirs of specific knowledge but also as ways of thinking about social cognitions.

Future directions

The research outlined in this thesis and the theoretical implications discussed above point to some interesting areas for future research in this field. While we have argued for the importance of both individual-cognitive and collective factors in determining stereotype content, the work of this thesis has necessarily concentrated more on the individual determinants. The collective determinants of stereotype content remain to be explored more fully. Work by Haslam and colleagues has considered the consensuality of content and considered the processes via which content becomes consensual. Future research should expand this work by considering the consensuality of theories/background knowledge and the processes via which these originate and become shared within groups. In particular, the link between identifying with a particular social group and endorsing and applying the theories associated with that group needs to be further articulated. Likewise, the variability of theories both within and between groups (and associated variations in stereotype content) which accompany variations in salient self-categorizations could be explored further.

The ideas outlined in the previous section concerning the nature of background theories remains largely speculative at this stage and offers an important avenue for further research. Of particular interest is the link between theories and metacognitions (Jost et al., 1998). Work in cognitive psychology, in particular concerning memory, has increasingly been interested in how our metacognitions can influence our cognitive processes. For social psychologists interested in social cognitions, such as stereotypes, it would appear that investigating how we think about categorization and stereotyping would be an obvious direction for further study.

Our approach to stereotype content has argued that content is variable and in any instance is determined by an interaction between context and theories. This implies that an understanding of stereotype content formation could be fruitfully be applied to

changing the content of stereotypes. If content is context- and theory-dependent it follows that content can be changed by either varying context or varying theories. Work by self-categorization theorists has explored how the prototype of a category can be changed with variations in comparative context. It could be argued that work in this thesis has demonstrated changes in content with variation in the theoretical context (e.g., of stereotypes of tour guides or the long-term unemployed). As we have argued previously, we do not believe that content is associated with social categories in any fixed ongoing fashion. Thus, this perspective implies that stereotype content should always be changing. However, in practice the comparative context in which we view social groups is often quite constant and may be difficult to change. It may be more fruitful to bring about change by 'attacking' people's theories. Thus, perhaps the emphasis in future research should not be upon changing stereotype content per se but on investigating how to change the theories and ideologies which produce that content.

We observed in both Experiments 5 and 6 that participants in high fit conditions, who also had theories, showed a tendency to stereotype less compared to those without theories. It has been suggested that this may be linked to the distinction between active and passive processing, with theories encouraging people to engage in more active processing of data and to employ less stereotyping. It would be interesting to explore further the distinction between active and passive processing, and the link to the use of theories.

Final comments

In the opening chapter of this thesis we suggested that stereotype content is returning to social psychologists' research agenda as an important topic. It is hoped that the work of this thesis has advanced our understanding of that topic and in particular the processes by which stereotype content forms. In developing self-categorization theory's analysis of social categorization and social stereotyping with respect to stereotype content, it is hoped that this work has offered an alternative way of conceptualising stereotype content and its formation that can be usefully employed in further research.

This thesis has also explored the role of background theories in stereotyping and in producing stereotype content. In recent years social psychologists, especially stereotyping researchers, have increasingly acknowledged the importance of explanatory knowledge structures. We have argued that background theories need to be distinguished from schemas, social categories, personality variables and cognitive biases. We believe that the nature of these knowledge structures may be quite complex and that it is important that they are not reduced to constructs already widely used in stereotyping research for the sake of simplicity. Importantly, the collective nature of theories needs to be acknowledged and further explored.

Most researchers are ultimately interested in stereotype content because they want to change it. They believe certain stereotypes are unjust, harmful or just plain wrong. The research carried out in this thesis suggests that the content of stereotypes can be changed with changes in either context or theories, or both. In reality, context may often be difficult to change with long histories of inter-group relationships or structural barriers that maintain the status quo. In such situations focussing on people's theories and ideologies may be the most useful approach. One need only consider the change in gender stereotypes over the past few decades which has accompanied the dissemination of feminist ideology to be convinced of this position.

In this thesis we have sought to illuminate the process that produces stereotype content. We have argued that content is not fixed and does not exist in any ongoing fashion but that it reflects the application of background theories to the representation and interpretation of stimulus reality within a specific context. Thus, attempting to define the specific content associated with any given social group may ultimately prove to be a fruitless exercise. Somewhat ironically, what matters with respect to content is the process. By understanding the process which produces content we should be able to predict the content which forms to represent any given group within any given context. Likewise, when attempting to change content it is also process that we should look towards.

<u>References</u>

Abate, M., & Berrien, F. K. (1967). Validation of stereotypes: Japanese versus American students. <u>Journal of Personality and Social Psychology</u>, <u>7</u>, 435-38.

Abrams, D., Thomas, J., & Hogg, M. A. (1990). Numerical distinctiveness, social identity, and gender salience. <u>British Journal of Social Psychology</u>, <u>29</u>, 87-92.

Abrams, D., & Hogg, M. A. (1990). The context of discourse: Let's not throw out the baby with the bathwater. <u>Philosophical Psychology</u>, <u>3</u>, 219-25.

Acorn, D. A., Hamilton, D. L., & Sherman, S. J. (1988). Generalization of biased perceptions of group based on illusory correlations. <u>Social Cognition</u>, <u>6</u>, 345-372.

Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. (1950). <u>The Authoritarian Personality</u>. New York: Harper.

Allen, V. L. & Wilder, D. A. (1979). Group categorization and attribution of belief similarity. <u>Small Group Behaviour</u>, <u>10</u>, 73-80.

Allport, G. W. (1954). <u>The Nature of Prejudice</u>. Cambridge, MA: Addison Wesley.

Altemeyer, B. (1988). <u>Enemies of freedom: Understanding right-wing authoritarianism</u>. San Francisco, CA: Jossey-Bass.

Amir, Y. (1969). Contact hypothesis in ethnic relations. <u>Psychological Bulletin</u>, <u>71</u>, 319-342.

Anderson, C. A. (1995). Implicit theories in broad perspective. <u>Psychological Inquiry</u>, <u>6</u>, 286-290.

Asch, S. E. (1952) <u>Social Psychology</u>. New York: Prentice-Hall.

Ashmore, R. D., & Del Boca, F. K. (1981) Conceptual approaches to stereotypes and stereotyping. In D. L. Hamilton (Ed.), <u>Cognitive processes in stereotyping and intergroup behaviour</u> (pp. 1-35). Hillsdale, NJ: Erlbaum.

Augoustinos, M. (1991). Consensual representations of social structure in different age groups. <u>British Journal of Social Psychology</u>, <u>30</u>, 193-205.

Augoustinos, M., & Walker, I. (1995). Social Cognition. London: Sage.

Augoustinos, M., & Innes, J. M. (1990). Towards an integration of social representations and social schema theory. British Journal of Social Psychology, 29, 213-231.

Bakan, D. (1966). The duality of human existence: A essay on philosophy & religion. Chicago: Rand McNally.

Barsalou, L. W. (1987). The instability of graded structure: Implications for the nature of concepts. In U. Neisser (Ed.) Concepts and conceptual development: Ecological and intellectual factors in categorization (pp. 101-140). Cambridge: Cambridge University Press.

Bayton, J. A. (1941). The racial stereotypes of Negro college students. Journal of Abnormal and Social Psychology, 36, 97-102.

Berndsen, M. (1997). Some illusions about illusory correlation. Unpublished Ph.D thesis, University of Amsterdam, Amsterdam.

Berndsen, M., Spears, R., McGarty, C., & van der Pligt, J. (1998). Dynamics of differentiation: Similarity as the precursor and product of stereotype formation. Journal of Personality and Social Psychology, 74, 1451-1463.

Billig, M. (1976). Social psychology and intergroup relations. London: Academic Press.

Billig, M. (1985). Prejudice, categorization and particularization: From a perceptual to a rhetorical approach. European Journal of Social Psychology, 15, 79-103.

Billig, M. (1991). Ideology and opinions: Studies in rhetorical psychology. London: Sage.

Billig, M. (1997). Discursive, rhetorical and ideological messages. In C. McGarty and S. A. Haslam (Eds.), The message of social psychology (pp. 36-53). Oxford, UK/ Cambridge, MA: Blackwell.

Billig, M., Condor, S., Edwards, M., Gane, M., Middleton, D., & Radley, A. (1988). Ideological dilemmas: A social psychology of everyday thinking. London: Sage.

Bodenhausen, G. V., & Lichtenstein, M. (1987). Social stereotypes and information-processing strategies: The impact of task complexity. Journal of Personality and Social Psychology, 52, 871-80.

Bodenhausen, G. V., & Wyer, R. S. (1985). Effects of stereotypes on decision making and information-processing strategies. Journal of Personality and Social Psychology, 48, 267-282.

Borgadus, E. S. (1950). Stereotypes versus sociotypes. Sociology and Social Science Research, 34, 286-291.

Brewer, M. B. (1979). Ingroup bias in the minimal intergroup situation: A cognitive-motivational analysis. Psychological Bulletin, 86, 307-324.

Brewer, M. B. (1988) A dual process model of impression formation. In T. K. Srull & R. S. Wyer (Eds.), Advances in social cognition (Vol. 1, pp. 1-36). Hillsdale, NJ: Erlbaum.

Brewer, M. B., Dull, V., & Lui, L. (1981) Perceptions of the elderly: Stereotypes as prototypes. Journal of Personality and Social Psychology, 41, 656-670.

Brewer, M. B., Weber, J. G., & Carini, B. (1995). Person memory in intergroup contexts: Categorization versus individuation. Journal of Personality and Social Psychology, 69, 29-40.

Brigham, J. C. (1971) Ethnic stereotypes. Psychological Bulletin, 76, 15-38.

Brown, R. (1965). Social psychology. New York: Free Press.

Brown, R. J., & Turner, J. C. (1981). Interpersonal and intergroup behaviour. In J. C. Turner & H. Giles (Eds.), Intergroup behaviour (pp. 33-65). Oxford: Blackwell; Chicago: University of Chicago Press.

Bruner, J. S. (1957). On perceptual readiness. Psychological Review, 64, 123-152.

Bruner, J. S., & Goodman, C. C. (1947) Value and need as organizing factors in perception. Journal of Abnormal and Social Psychology, 42, 33-44.

Buchanan, W. (1951). Stereotypes and tensions as revealed by the UNESCO International Poll. International Social Science Bulletin, 3, 33-44.

Campbell, D. T. (1958). Common fate, similarity and other indices of the status of aggregrates of persons as social entities. Behavioural Science, 3, 14-25.

Campbell, D. T. (1967). Stereotypes and the perception of group differences. American Psychologist, 22, 817-829.

Chapman, L. J., & Chapman, J. P. (1967). Genesis of popular but erroneous psychodiagnostic signs. Journal of Abnormal Psychology, 72, 193-204.

Cheyne, W. M. (1970). Stereotyped reactions to speakers with Scottish and English regional accents. British Journal of Social and Clinical Psychology, 9, 77-79.

Chiu, C., Hong, Y., & Dweck, C. S. (1997). Lay dispositionism and implicit theories of personality. Journal of Personality and Social Psychology, 73, 19-30.

Christie, R., & Jahoda, M. (Eds.) (1954). Studies in the scope and method of "The authoritarian personality". Glencoe, Ill.:Free Press.

Cohen, C. E. (1981). Person categories and social perception: Testing some boundaries of the processing effects of prior knowledge. Journal of Personality and Social Psychology, 40, 441-452.

Collins, A. M. & Loftus, E. F. (1975). A spreading-activation theory of semantic processing. Psychological Review, 82, 407-428.

Condor, S. G. (1990) Social stereotypes and social identity. In D. Abrams & M. A. Hogg (Eds.), Social identity theory: Constructive and critical advances (pp. 230-49) Hemel Hempstead, UK: Harvester Wheatsheaf.

Cook, S. W. (1962). The systematic analysis of socially significant events. Journal of Social Issues, 18, 66-84.

Darley, J. M., & Gross, P. H. (1983). A hypothesis-confirming bias in labelling effects. Journal of Personality and Social Psychology, 44, 20-33.

David, B. & Turner, J. C. (1992, July). Studies in self-categorization and minority conversion. Paper presented to the Symposium on Minority Influence at the Joint EAESP/SESP Meeting, Leuven.Louvain-la-Neuve, Belgium.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. Journal of Personality and Social Psychology, 56, 5-18.

Diab, L. N. (1963a). Factors affecting studies of National stereotypes. Journal of Social Psychology, 59, 29-40.

Diab, L. N. (1963b). Factors determining group stereotypes. Journal of Social Psychology, 61, 3-10.

Doise, W. (1978). Individuals and groups: Explanations in social psychology. Cambridge: Cambridge University Press.

Doise, W., Csepeli, G., Dann, H. D., Gouge, C., Larsen, K. & Ostell, A. (1972). An experimental investigation into the formation of intergroup representations. European Journal of Social Psychology, 2, 202-204.

Dollard, J., Doob, L. W., Miller, N. E., Mowrer, O. H., & Sears R. R (1939). Frustration and aggression. New Haven, CT: Yale University Press.

Duckitt, J. (1992). The social psychology of prejudice. Westport, CT: Praeger.

Duncan, B. L. (1976). Differential social perception and attribution of intergroup violence: Testing the lower limits of stereotyping of blacks. Journal of Personality and Social Psychology, 34, 590-598.

Durkheim, E. (1898). Represetations individuelles et representations collectives. Revue de Metaphysique et de Morale, VI, 273-302.

Dweck, C. S., Chiu, C., & Hong, Y. (1995a). Implicit theories and their role in judgements and reactions: A world from two perspectives. Psychological Inquiry, 6, 267-285.

Dweck, C. S., Chiu, C., & Hong, Y. (1995b). Implicit theories: Elaboration and extension of the model. Psychological Inquiry, 6, 322-333.

Dweck, C. S., Hong, Y., & Chiu, C. (1993). Implicit theories: individual differences in the likelihood and meaning of dispositional inference. Personality and Social Psychology Bulletin, 19, 644-656.

Eagly, A. H. (1987). Sex differences in social behaviour: A social-role interpretation. Lawrence Erlbaum Associates: Hillsdale, NJ.

Eagly, A. H., & Steffen, V. J. (1984) Gender stereotypes stem from the distribution of men and women into social roles. Journal of Personality and Social Psychology, 46, 735-754.

Eagly, A. H., & Steffen, V. J. (1986). Gender stereotypes, occupational roles, and beliefs about part-time employees. Psychology of Women Quarterly, 10, 252-262.

Echebarria-Echabe, A., Guede, E. F., Sanjuan-Guillen, C., & Valencia-Garate, J. F. (1992). Social representations of drugs, causal judgement and social perception. European Journal of Social Psychology, 22, 73-84.

Eiser, J. R. & Stroebe, W. (1972). Categorization and social judgement. London: Academic Press.

Ellemers, N., & van Knippenberg, A. (1997). Stereotyping in social context. In R. Spears, P. J. Oakes, N. Ellemers & S. A. Haslam (Eds.), The social psychology of stereotyping and group life (pp. 208-34). Oxford, UK/ Cambridge, MA: Blackwell.

Fiedler, K. (1991). The tricky nature of skewed frequency tables: An information loss account of distinctiveness-based illusory correlation. Journal of Personality and Social Psychology, 60, 26-36.

Fishman, J. A. (1956) An examination of the process and function of social stereotyping. Journal of Social Psychology, 43, 27-64.

Fiske, S. T. (1992). Thinking is for doing: Portraits of social cognition from daguerrotype to laserphoto. Journal of Personality and Social Psychology, 63, 877-89.

Fiske, S. T. (1993). Social cognition and social perception. In M. R. Rozenweig & L. W. Porter (Eds.), Annual Review of Psychology (Vol. 44, pp. 155-94). Palo Alto, CA: Annual Reviews.

Fiske, S. T. & Leyens, J-P. (1997). Let social psychology be faddish or, at least, heterogenous. In C. McGarty and S. A. Haslam (Eds.), The message of social psychology (pp. 92-112). Oxford, UK/ Cambridge, MA: Blackwell

Fiske, S. T., & Neuberg, S. L. (1990) A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), Advances in Experimental Social Psychology (Vol. 23 pp. 1-73). New York: Random House.

Fiske, S. T., Neuberg, S. L., Beattie, A. E., & Milberg, S. J. (1987). Category-based and attribute-based reactions to others: Some informational conditions of stereotyping and individuating processes. Journal of Experimental Social Psychology, 23, 399-427.

Fiske, S. T., & Taylor, S. E. (1984). Social cognition. Reading, MA: Addison-Wesley.

Fiske, S. T., & Taylor, S. E. (1991). Social cognition (2nd. ed.). New York: McGraw-Hill.

Ford, T. E. & Stangor, C. (1992). The role of diagnosticity in stereotype formation: Perceiving group means and variances. Journal of Personality and Social Psychology, 63, 356-367.

Ford, T. E., & Tonander, G. R. (1995). The role of social identity and attribute diagnosticity in stereotype formation. Poster presented at the conference of the Society of Experimental Social Psychologists, Washington, DC.

Fyock, J., & Stangor, C. (1994). The role of memory biases in stereotype maintenance. British Journal of Social Psychology, 33, 331-343.

Gergen, K. (1985). The social constructionist movement in modern psychology. American Psychologist, 40, 266-275.

Gilbert, G. M. (1951). Stereotype persistence and change among college students. Journal of Abnormal and Social Psychology, 46, 245-54.

Hamilton, D. L., Devine, P. G., & Ostrom, T. M. (1994). Social cognition and classic issues in psychology. In P. G. Devine, D. L. Hamilton and T. M. Ostrom (Eds.), Social cognition: Impact on social psychology. (pp. 1-13). San Diego, CA: Academic Press.

Hamilton, D. L., Dugan, P. M., & Trolier, T. K. (1985). The formation of stereotypic beliefs: Further evidence for distinctiveness-based illusory correlations. Journal of Personality and Social Psychology, 48, 5-17.

Hamilton, D. L., & Gifford, R. K. (1976). Illusory correlation in intergroup perception: A cognitive basis of stereotypic judgments. Journal of Experimental Social Psychology, 12, 392-407.

Hamilton, D. L., & Rose, T. L. (1980). Illusory correlation and the maintenance of stereotypic beliefs. Journal of Personality and Social Psychology, 39, 832-845.

Hamilton, D. L., & Sherman, J. W. (1994). Stereotypes. In R. S. Wyer, Jr., & T. K. Srull (Eds.), Handbook of Social Cognition (2nd edition, pp.1-68). Hillsdale, NJ: Erlbaum.

Hamilton, D. L., Stroessner, S. J., & Driscoll, D. M. (1994). Social cognition and the study of stereotyping. In P. G. Devine, D. L. Hamilton & T. M. Ostrom (Eds.), Social Cognition: Contributions to Classic Issues in Social Psychology (pp. 291-321). San Diego, CA: Academic Press.

Hamilton, D. L., & Trolier, T. K. (1986) Stereotypes and stereotyping: An overview of the cognitive approach. In J. F. Dovidio & S. L. Gaertner (Eds.), Prejudice, discrimination, and racism (pp. 127-163). New York & Orlando, FL: Academic Press.

Harackwiecz, J. M., & Elliot, A. J. (1995). Life is a roller coaster when you view the world through entity glasses. Psychological Inquiry, 6, 298-301.

Harre', R. (1984). Some reflections on the concept of 'social representations'. Social Research, 51, 927-38.

Haslam, S. A. (1990). Social comparative context, self-categorization and stereotyping. Unpublished Ph.D. thesis, Macquarie University, NSW, Australia.

Haslam, S. A. (1997). Stereotyping and social influence: Foundations of stereotype sharedness. In R. Spears, P. J. Oakes, N. Ellemers & S. A. Haslam (Eds.), The social psychology of stereotyping and group life (pp. 119-143). Oxford, UK/ Cambridge, MA: Blackwell.

Haslam, S. A., McGarty, C., & Brown, P. M. (1996). The search for differentiated meaning is a precursor to illusory correlation. Personality and Social Psychology Bulletin, 22, 611-619.

Haslam, S. A., McGarty, C., Oakes, P. J., Turner, J. C., & Onorato, R. S. (1995). Contextual changes in the prototypicality of extreme and moderate outgroup members. European Journal of Social Psychology, 25, 509-530.

Haslam, S. A., McGarty, C., Oakes, P. J., & Turner, J. C. (1993). Social comparative context and illusory correlation: Testing between ingroup bias and social identity models of stereotype formation. Australian Journal of Psychology, 45, 97-101.

Haslam, S. A., Oakes, P. J., McGarty, C., Turner, J. C., Reynolds, K. J., & Eggins, R. A. (1996). Stereotyping and social influence: The mediation of stereotype applicability and sharedness by the views of ingroup and outgroup members. British Journal of Social Psychology, 35, 369-397.

Haslam, S. A., Oakes, P. J. Turner, J. C., & McGarty, C. (1995). Social categorization and group homogeneity: Changes in the perceived applicability of stereotype content as a function of comparative context and trait favourableness. British Journal of Social Psychology, 34, 139-60.

Haslam, S. A., & Turner, J. C. (1992). Context-dependent variation in social stereotyping 2: The relationship between frame of reference, self-categorization and accentuation. European Journal of Social Psychology, 22, 251-278.

Haslam, S. A., & Turner, J. C. (1995). Context-dependent variation in social stereotyping 3: Extremism as a self-categorical basis for polarized judgement. European Journal of Social Psychology, 25, 341-71.

Haslam, S. A., Turner, J. C, Oakes, P. J., McGarty, C., & Hayes, B. K. (1992). Context-dependent variation in social stereotyping 1: The effects of intergroup relations as mediated by social change and frame of reference. European Journal of Social Psychology, 22, 3-20.

Haslam, S. A., Turner, J. C., Oakes, P. J., McGarty, C., & Reynolds, K. J. (1998). The group as a basis for emergent stereotype consensus. In W. Stroebe and M. Hewstone (Eds.), European Review of Social Psychology (Vol. 9, pp. 203-239). Chichester: Wiley.

Hastie, R., & Kumar, P. A. (1979). Person memory: Personality traits as organizing principles in memory for behaviors. Journal of Personality and Social Psychology, 37, 25-38.

Hewstone, M. (1989) <u>Causal Attribution: From cognitive processes to collective beliefs</u>. Oxford: Basil Blackwell.

Hewstone, M. (1990). The ultimate attribution error: A review of the literature on intergroup causal attribution. <u>European Journal of Social Psychology</u>, <u>20</u>, 311-355.

Hewstone, M. (1996). Contact and categorization: Social-psychological interventions to change intergroup relations. In C. N. Macrae, C. Stangor & M. Hewstone (Eds.), <u>Stereotypes and stereotyping</u> (pp. 323-68). New York: Guilford.

Hewstone, M., & Brown, R. J. (1986). <u>Contact and conflict in intergroup encounters</u>. Oxford: Basil Blackwell.

Hewstone, M., Hopkins, N., & Routh, D. A. (1992). Cognitive models of stereotype change: (1) Generalization and subtyping in young people's views of the police. <u>European Journal of Social Psychology</u>, <u>22</u>, 219-234.

Hewstone, M., Jaspars, J., & Lalljee, M. (1982). Social representations, social attribution and social identity: The intergroup images of 'public' and 'comprehensive' schoolboys. <u>European Journal of Social Psychology</u>, <u>12</u>, 241-69.

Hewstone, M., Johnston, L., & Aird, P. (1992). Cognitive models of stereotype change: (2) Perceptions of homogenous and heterogenous groups. <u>European Journal of Social Psychology</u>, <u>22</u>, 235-249.

Hewstone, M., Macrae, C. N., Griffiths, R., & Milne, A. B. (1994). Cognitive models of stereotype change: (5) Measurement, development, and the consequences of subtyping. <u>Journal of Experimental Social Psychology</u>, <u>30</u>, 505-526.

Hoffman, C., & Hurst, N. (1990) Gender stereotypes: Perception or rationalization? <u>Journal of Personality and Social Psychology</u>, <u>58</u>, 197-208.

Hogg, M. A. (1992). <u>The social psychology of group cohesiveness</u>. Hemel Hempstead: Harvester Wheatsheaf.

Hogg, M. A., Cooper-Shaw, L., & Holzworth, D. W. (1993). Group prototypicality and depersonalized attraction in small interactive groups. <u>Personality and Social Psychology Bulletin</u>, <u>19</u>, 452-465.

Hogg, M. A., & McGarty, C. (1990). Self-categorization and social identity. In D. Abrams & M. A. Hogg (Eds.), <u>Social identity theory: Constructive and critical advances</u> (pp. 210-27). Hemel Hempstead, UK: Harvester Wheatsheaf.

Hogg, M. A., Turner, J. C., & David(son), B. (1990). Polarized norms and social frames of reference: A test of the self-categorization theory of group polarization. <u>Basic and Applied Social Psychology</u>, <u>11</u>, 77-100.

Hopkins, N., Hewstone, M., & Hantzi, A. (1992). Police-schools liaison and young people's image of the police: An intervention evaluation. <u>British Journal of Psychology</u>, <u>83</u>, 203-220.

Hraba, J., Hagendoorn, L., & Hagendoorn, R. (1989). The ethnic hierarchy in the Netherlands: Social distance and social representation. <u>British Journal of Social Psychology</u>, <u>28</u>, 57-69.

Jaspars, J., & Hewstone, M. (1990). Social categorization, collective beliefs, and causal attribution. In C. Fraser & G. Gaskell (Eds.), <u>The social psychological study of widespread beliefs</u> (pp. 121-157). Oxford: Claredon Press.

Jellison, J. M. & Green, J. (1981). A self-presentation approach to the fundamental attribution error: The norm of internality. <u>Journal of Personality and Social Psychology</u>, <u>40</u>, 643-649.

Johnston, L., & Hewstone, M. (1992). Cognitive models of stereotype change: (3) Subtyping and the perceived typicality of disconfirming group members. <u>Journal of Experimental Social Psychology</u>, <u>28</u>, 360-86.

Johnston, L., Hewstone, M., Pendry, L., & Frankish, C. (1994). Cognitive models of stereotype change: IV Motivational and cognitive influences. <u>European Journal of Social Psychology</u>, <u>24</u>, 237-65.

Jones, E. E., Wood, G. C., & Quattrone, G. A. (1981). Perceived variability of personal characteristics in ingroup and outgroup: The role of knowledge and evaluation. <u>Personality and Social Psychology Bulletin</u>, <u>7</u>, 523-528.

Jones, R. A., Scott, J., Solernou, J., Noble, A., Fiala, J., & Miller, K. (1977). Availability and formation of stereotypes. <u>Perceptual and Motor Skills</u>, <u>44</u>, 631-638.

Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system justification and the production of false consciousness. British Journal of Social Psychology, 33, 1-27.

Jost, J. T., Kruglanski, A. W., & Nelson, T. O. (1998). Social metacognition: An expansionist review. Personality and Social Psychology Review, 2, 137-54.

Judd, C. M., & Park, B. (1988). Out-group homogeneity: Judgements of variability at the individual and group levels. Journal of Personality and Social Psychology, 54, 778-788.

Jussim, L. (1990). Social reality and social problems: The role of expectancies. Journal of Social Issues, 46, 9-34.

Jussim, L. (1991). Social perception and social reality: A reflection-construction model. Psychological Review, 98, 54-73.

Karlins, M., Coffman, T. L., & Walters, G. (1969). On the fading of social stereotypes: Studies in three generations of college students. Journal of Personality and Social Psychology, 13, 1-16.

Katz, D., & Braly, K. (1933). Racial stereotypes of one hundred college students. Journal of Abnormal and Social Psychology, 28, 280-290.

Katz, D., & Braly, K. (1935). Racial prejudice and racial stereotypes. Journal of Abnormal and Social Psychology, 30, 175-193.

Kelly, C. (1989). Political identity and perceived intragroup homogeneity. British Journal of Social Psychology, 28, 239-250.

Kim, H-S., & Baron, R. S. (1988). Exercise and the illusory correlation: Does arousal heighten stereotypic processing? Journal of Experimental Social Psychology, 24, 366-380.

Kirk, R. E. (1982). Experimental design: Procedures for the behavioural sciences. Pacific Grove, CA: Brooks/Cole.

Klineberg, O. (1951). Tensions affecting international understanding. Social Science Research Council Bulletin (Vol. 62). New York.

Kunda, Z., & Oleson, K. C. (1995). Maintaining stereotypes in the face of disconfirmation: Constructing grounds for subtyping deviants. Journal of Personality and Social Psychology, 68, 565-579.

LaViolette, F., & Silvert, K. H. (1951). A theory of stereotypes. Social Forces, 15, 257-262.

LaPiere, R. T. (1936). Type-rationalizations and group antipathy. Social Forces, 15, 232-237.

Lambert, W. E., Hodgson, R. C., Gardner, R. C., & Fillenbaum, S. (1960). Evaluational reactions to spoken languages. Journal of Abnormal and Social Psychology, 60, 44-51.

Lee, Y. T., Jussim, L. J., & McCauley, C. R. (Eds.) (1995). Stereotype accuracy: Towards appreciating group differences. Washington, DC: American Psychological Association.

Lerner, M. J. (1980). The belief in a just world: A fundamental delusion. New York: Plenum.

LeVine, R. A., & Campbell, D. T. (1972). Ethnocentrism. New York: Wiley.

Levy, S. R., & Dweck, C. S. (1998). Trait- versus process-focused social judgement. Social Cognition, 16, 151-172.

Levy, S. R., Stroessner, S. J., & Dweck, C. S. (1998). Stereotype formation and endorsement: The role of implicit theories. Journal of Personality and Social Psychology, 74, 1421-1436.

Leyens, J-P., & Fiske, S. T. (1994). Impression formation: From recitals to symphonie fantastique. In P. G. Devine, D. L. Hamilton & T. M. Ostrom (Eds.), Social Cognition: Contributions to Classic Issues in Social Psychology (pp. 39-75). San Diego, CA: Academic Press.

Leyens, J-P., Yzerbyt, V., & Schadron, G. (1994). Stereotypes and social cognition. London: Sage.

Linssen, H., & Hagendoorn, L. (1994). Social and geographical factors in the explanation of the content of European national stereotypes. British Journal of Social Psychology, 33, 165-82.

Linville, P. W. (1982). The complexity-extremity effect and age-based stereotyping. Journal of Personality and Social Psychology, 42, 193-211.

Linville, P. W., Fischer, G. W., & Salovey, P. (1989). Perceived distribution of the characteristics of in-group and out-group members: Empirical evidence and a computer simulation. Journal of Personality and Social Psychology, 57, 165-188.

Lippmann, W. (1922). Public opinion. New York: Harcourt Brace.

Mackie, D. M., Hamilton, D. L., Susskind, J., & Rosselli, F. (1996). Social psychological foundations of stereotype formation. In C. N. Macrae, C. Stangor and M. Hewstone (Eds.), Stereotypes and stereotyping (pp. 41-78). New York: Guildford Press.

Macrae, C. N., Hewstone, M., & Griffiths, R. J. (1993) Processing load and memory for stereotype-based information. European Journal of Social Psychology, 23, 77-87.

Macrae, C.N., Stangor, C., & Hewstone, M. (Eds.). (1996). Stereotypes and stereotyping. New York: Guildford.

Marques, J. M. (1990). The black-sheep effect: Outgroup homogeneity in social comparison settings. In D. Abrams and M. A. Hogg (Eds.), Social identity theory: Constructive and critical advances (pp. 131-51). Hempel Hempstead: Harvester Wheatsheaf.

Marques, J. M., & Yzerbyt, V. Y. (1988). The black-sheep effect: Judgemental extremity towards ingroup members in inter- and intra-group situations. European Journal of Social Psychology, 18, 287-292.

Marques, J. M., Yzerbyt, V. Y., & Leyens, J-P. (1988). 'The 'Black Sheep Effect': Extremity of judgements towards ingroup members as a function of group identification. European Journal of Social Psychology, 18, 1-16.

McArthur, L. Z., & Baron, R. A. (1983). An ecological approach to social perception. Psychological Review, 90, 215-38.

McArthur, L. Z., & Friedman, S. A. (1980). Illusory correlation in impression formation: Variations in the shared distinctiveness effect as a function of the distinctive person's age, race, and sex. Journal of Personality and Social Psychology, 39, 615-624.

McConahay, J. B., Hardee, B. B., & Batts, V. (1981). Has racism declined in America? It depends on who is asking and what is asked. Journal of Conflict Resolution, 25, 563-579.

McGarty, C., & de la Haye, A-M. (1997). Stereotype formation: Beyond illusory correlation. In R. Spears, P. J. Oakes, N. Ellemers & S. A. Haslam (Eds.), The social psychology of stereotyping and group life (pp. 144-170). Oxford, UK; Cambridge, MA: Blackwell.

McGarty, C., & Penny, R. E. C. (1988). Categorization, accentuation and social judgement. British Journal of Social Psychology, 27, 147-157.

McGarty, C., & Turner, J. C. (1992) The effects of categorization on social judgement. British Journal of Social Psychology, 31, 147-157.

McGarty, C., Haslam, S. A., Turner, J. C., & Oakes, P. J. (1993) Illusory correlation as accentuation of actual intercategory difference: Evidence for the effect with minimal stimulus information. European Journal of Social Psychology, 23, 391-410.

McGarty, C., Turner, J. C., Hogg, M. A., David, B. & Wetherell, M. (1992). Group polarization as conformity to the prototypical group member. British Journal of Social Psychology, 31, 1-19.

Medin, D. L. (1989). Concepts and conceptual structure. American Psychologist, 44, 1469-1481.

Medin, D. L., Goldstone, R. L., & Gentner, D. (1993). Respects for similarity. Psychological Review, 100, 254-78.

Medin, D. L., & Ortony, A. (1989). Psychological essentialism. In S. Vosniadou and A. Ortony (Eds.), Similarity and analogical reasoning (pp. 179-95). Cambridge: Cambridge University Press.

Medin, D. L., & Smith, E. E. (1984). Concepts and concept formation. Annual Review of Psychology, 35, 113-38.

Medin, D. L. & Wattenmaker, W. D. (1987) Category cohesiveness, theories, and cognitive archaeology. In U. Neisser (Ed.) Concepts and conceptual development: Ecological and intellectual factors in categorization (pp. 25-62). Cambridge: Cambridge University Press.

Meenes, M. (1943). A comparison of racial stereotypes of 1935 and 1942. Journal of Social Psychology, 17, 327-336.

Miller, J. G. (1984). Culture and the development of everyday social explanation. Journal of Personality and Social Psychology, 46, 961-78.

Morris, M. W., & Peng, K. (1994). Culture and cause: American and Chinese attributions of social and physical events. Journal of Personality and Social Psychology, 67, 949-71.

Morris, M. W., Nisbett, R. E., & Peng, K. (1995). Causal attribution across domains and cultures. In D. Sperber, D. Premack and G. Lewis (Eds.), Causal cognition: A multidisciplinary debate (pp. 577-614) New York. NY: Claredon Press/ Oxford: Oxford University Press.

Moscovici, S. (1961/76). La Psychanalyse: Son image et son public/Psychoanalysis: Its image and its public. Paris: U France Press.

Moscovici, S. (1976). Social influence and social change. London: Academic Press.

Moscovici, S. (1984). The phenomenon of social representations. In R. M. Farr & S. Moscovici (Eds.), Social representations (pp. 3-69). Cambridge/Paris; Cambridge University Press/Maison des Sciences de l'Homme.

Murphy G. L., & Medin, D. L. (1985). The role of theories in conceptual coherence. Psychological Review, 92, 289-316.

Neisser, U. (1987) Introduction: The ecological and intellectual bases of categorization. In U. Neisser (Ed.), Concepts and conceptual development: Ecological and intellectual factors in categorization (pp. 1-10). Cambridge: Cambridge University Press.

Nesdale, A. R., Dharmalingam, S., & Kerr, G. K. (1987). Effect of subgroup ratio on stereotyping. European Journal of Social Psychology, 17, 353-356.

Oakes, P. J. (1987). The salience of social categories. In J. C. Turner, M. A. Hogg, P. J. Oakes S. D. Reicher & M. S. Wetherell, Rediscovering the social group: A self-categorization theory. Oxford: Blackwell.

Oakes, P. J. (1996). The categorization process: Cognition and the group in the social psychology of stereotyping. In W. P. Robinson (Ed.), Social group and identities: Developing the legacy of Henri Tajfel, (pp. 95-119). Oxford, UK: Butterworth-Heinmann.

Oakes, P. J., & Dempster, A. (1996, July). Views of the categorization process with an example from stereotype change. Paper presented in the Symposium "The Distinction Between Stereotyping and Individuation: Current Issues in Impression Formation" at the EAESP General Meeting, Gmunden, Austria.

Oakes, P. J., Haslam, S. A., & Reynolds, K. J. (1999). Social categorization and social context: Is stereotype change a matter of information or meaning? In D. Abrams & M. Hogg (Eds.), Social identity and social cognition (pp. 55-79). Oxford, UK/ Malden, MA: Blackwell.

Oakes, P. J., Haslam, S. A. & Turner, J. C. (1994). Stereotyping and social reality. Oxford, UK/Cambridge, MA: Blackwell.

Oakes, P. J., Haslam, S. A., & Turner, J. C. (1998). The role of prototypicality in group influence and cohesion: Contextual variation in the graded structure of social categories. In S. Worchel, J. F. Morales, D. Paez & J. C. Deschamps (Eds.), Social identity: International perspectives (pp. 75-92). London: Sage.

Oakes, P. J., & Reynolds, K. J. (1997). Asking the accuracy question? Is measurement the answer. In R. Spears, P. J. Oakes, N. Ellemers & S. A. Haslam (Eds.), The social psychology of stereotyping and group life (pp. 51-71). Oxford, UK/ Cambridge, MA: Blackwell.

Oakes, P. J., & Turner, J. C. (1986). Distinctiveness and the salience of social category memberships: Is there a perceptual bias towards novelty? European Journal of Social Psychology, 16, 325-344.

Oakes, P. J., & Turner, J. C. (1990). Is limited information processing capacity the cause of social stereotyping? In W. Stroebe & M. Hewstone (Eds.), European Review of Social Psychology (Vol. 1. pp. 111-35). Chichester, UK: Wiley.

Oakes, P. J., Turner, J. C., & Haslam, S. A. (1991) Perceiving people as group members: The role of fit in the salience of social categorizations. British Journal of Social Psychology, 30, 125-144.

Onorato, R. S., & Turner, J. C. (1996, May). Fluidity in the self-concept: A shift from personal to social identity. Paper presented in the Symposium "Self, self-stereotyping and identity", 2nd. Meeting of the Society of Australasian Social Psychologists, Canberra, ACT, Australia.

Onorato, R. S., & Turner, J. C. (1997, April). Individual differences and social identity: A study of self-categorization processes in the Markus paradigm. Paper presented at the 3rd. Meeting of the Society of Australasian Social Psychologists, Wollongong, NSW, Australia.

Operario, D., & Fiske, S. T. (1999). Integrating social identity and social cognition: A framework for bridging diverse perspectives. In D. Abrams & M. A. Hogg (Eds.), Social identity and social cognition (pp. 26-54). Oxford, UK/ Malden, MA: Blackwell.

Park, B., & Hastie, R. (1987). The perception of variability in category development: Instance- versus abstraction-based stereotypes. Journal of Personality and Social Psychology, 53, 621-635.

Park, B., Judd, C. M., & Ryan, C. S. (1991). Social categorization and the representation of variability information. In W. Stroebe & M. Hewstone (Eds.) European Review of Social Psychology, (vol. 2, pp. 211-45). Chichester: Wiley.

Park, B., & Rothbart, M. (1982). Perception of outgroup homogeneity and levels of social categorization: Memory for the subordinate attributes of ingroup and outgroup members. Journal of Personality and Social Psychology, 42, 1051-1068.

Parker, I. (1992). Discourse dynamics: Critical analyses for social and individual psychology. London: Routledge.

Pepitone, A. (1986). Culture and the cognitive paradigm in social psychology. Australian Journal of Psychology, 38, 245-256.

Pettigrew, T. F. (1958). Personality and socio-cultural factors in intergroup attitudes: A cross-national comparison. Journal of Conflict Resolution, 2, 29-42.

Pettigrew, T. F. (1969). Racially separate or together? Journal of Social Issues, 25, 43-69.

Pettigrew, T. F. (1979). Th ultimate attribution error: Extending Allport's cognitive analysis of prejudice. Personality and Social Psychology Bulletin, 5, 461-476.

Pettigrew, T. F., Allport, G. W., & Barnett, E. O. (1958). Binocular resolution and perception of race in South Africa. British Journal of Psychology, 49, 265-278.

Piaget, J. (1952). The child's conception of number. London: Routledge & Kegan Paul.

Potter, J., & Billig, M. (1992). Re-presenting representations: Discussions on Raty and Snellman. Papers on Social Representations, 1, 15-20.

Potter, J., & Litton, I. (1985). Some problems underlying the theory of social representations. British Journal of Social Psychology, 24, 81-90.

Potter, J., & Wetherell, M. (1987). Discourse and social psychology: Beyond attitudes and behaviour. London: Sage.

Prothro, E. T., & Melikian, L. H. (1955). Studies in stereotypes: V. Familiarity and the kernel of truth hypothesis. Journal of Social Psychology, 41, 3-10.

Quattrone, G. A., & Jones, E. E. (1980). The perception of variability within ingroups and outgroups: Implications for the law of small numbers. Journal of Personality and Social Psychology, 38, 141-152.

Reicher, S., Hopkins, N., & Condor, S. (1997). Stereotype construction as a strategy of influence. In R. Spears, P. J. Oakes, N. Ellemers & S. A. Haslam (Eds.), The social psychology of stereotyping and group life (pp. 94-118). Oxford, UK/ Cambridge, MA: Blackwell.

Reynolds, K. J. (1996). Beyond the information given: Capacity, context and the categorization process in impression formation. Unpublished Ph.D thesis: Australian National University.

Rohlf, F. J., & Sokal, R. R. (1981). Statistical tables. San Francisco, CA: W. H. Freeman.

Rojahn, K., & Pettigrew, T. F. (1992). Memory for schema-relevant information: A meta-analytic resolution. British Journal of Social Psychology, 31, 81-109.

Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 10, pp. 173-220). New York: McGraw-Hill.

Rothbart, M. (1981). Memory processes and social beliefs. In D. L. Hamilton (Ed.) Cognitive processes in stereotyping and intergroup behaviour (pp. 145-182). Hillsdale, NJ: Erlbaum.

Rothbart, M., Evans, M., & Fulero, S. (1979). Recall of confirming events: Memory processes and the maintenance of social stereotypes. Journal of Experimental Social Psychology, 15, 343-355.

Rothbart, M., & John, O. P. (1985). Social categorization and behavioural episodes: A cognitive analysis of the effects of intergroup contact. Journal of Social Issues, 41, 81-104.

Rothbart, M., & Taylor, M. (1992). Category labels and social reality: Do we view social categories as natural kinds? In G. R. Semin & K. Fiedler (Eds.), Language, interaction and social cognition (pp. 11-36). London: Sage.

Sagar, H. A., & Schofield, J. W. (1980). Racial and behavioural cues in black and white children's perceptions of ambiguously aggressive acts. Journal of Personality and Social Psychology, 39, 590-598.

Sanbonmatsu, D. M., Sherman, S. J., & Hamilton, D. L. (1987). Illusory correlation in the perception of individuals and group. Social Cognition, 5, 1-25.

Schaller, M. (1992). In-group favouritism and statistical reasoning in social inference: Implications for formation and maintenance of group stereotypes. Journal of Personality and Social Psychology, 63, 61-74.

Schaller, M., & Maass, A. (1989) Illusory correlation and social categorization: Toward an integration of motivational and cognitive factors in stereotype formation. Journal of Personality and Social Psychology, 56, 709-721.

Schneider, D. J. (1996). Modern stereotype research: Unfinished business. In C. N. Macrae, C. Stangor and M. Hewstone (Eds.), Stereotypes and stereotyping (pp. 419-453). New York: Guildford Press.

Scodel, S., & Austrin, H. (1957). The perception of Jewish photographs by non-Jews and Jews. Journal of Abnormal and Social Psychology, 54, 278-80.

Seago, D. W (1947). Stereotypes: Before Pearl Harbour and after. Journal of Social Psychology, 23, 55-63.

Secord, P. F., Bevan, W., & Katz, B. (1956). The Negro stereotype and perceptual accentuation. Journal of Abnormal and Social Psychology, 53, 78-83.

Sherif, M. (1967). Group conflict and co-operation: Their social psychology. London: Routledge & Kegan Paul.

Sherif, M., & Sherif, C. W. (1953). Groups in harmony and tension: An integration of studies on intergroup relations. New York: Octagon.

Shrieke, B. J. O. (1936). Alien Americans. New York: Viking.

Simon, B, (1992). The perception of ingroup and outgroup homogeneity: Re-introducing the social context. In W. Stroebe and M. Hewstone (Eds.), European Review of Social Psychology (vol. 3, pp. 1-30). Chichester: Wiley.

Simon, B., & Brown, R. J. (1987). Perceived intragroup homogeneity in minority-majority contexts. Journal of Personality and Social Psychology, 53, 703-711.

Sinha, A. K. P., & Upadhyaya, O. P. (1960). Change and persistence in the stereotypes of university students toward different ethnic groups during Sino-Indian border dispute. Journal of Social Psychology, 52, 31-39.

Slusher, M. P., & Anderson, C. A. (1987). When reality monitoring fails: The role of imagination in stereotype maintenance. Journal of Personality and Social Psychology, 52, 653-662.

Smith, E. R. (1991). Illusory correlation in a simulated exemplar-based memory. Journal of Experimental Social Psychology, 27, 107-123.

Smith, E. R. (1990). Content and process specificity in the effects of prior experiences. in T. K. Srull and R. J. Wyer (Eds.), Content and process specificity in the effects of prior experiences. Advances in social cognition (vol. 3, pp. 1-59). Hillsdale, NJ: Lawrence Erlbaum.

Smith, E. R., & Zarate, M. A. (1992). Exemplar-based model of social judgement. Psychological Review, 99, 3-21.

Snyder, M. (1981). On the self-perpetuating nature of social stereotypes. In D. L. Hamilton (Ed.), Cognitive processes in stereotyping and intergroup behaviour (pp. 183-212). Hillsdale, NJ: Erlbaum.

Snyder, M., & Swann, W. B. (1978). Hypothesis-testing processes in social interaction. Journal of Personality and Social Psychology, 36, 1202-1212.

Snyder, M., & Uranowitz, S. W. (1978). Reconstructing the past: Some cognitive consequences of person perception. Journal of Personality and Social Psychology, 36, 941-950.

Spears, R., & Haslam, S. A. (1997). Stereotyping and the burden of cognitive load. In R. Spears, P. J. Oakes, N. Ellemers & S. A. Haslam (Eds.), The social psychology of stereotyping and group life (pp. 171-207). Oxford, UK/ Cambridge, MA: Blackwell.

Spears, R., Oakes, P. J., Ellemers, N., & Haslam, S. A. (Eds.) (1997). The social psychology of stereotyping and group life. Oxford, UK/ Cambridge, MA: Blackwell.

Spears, R., van der Pligt, J., & Eiser, J. R. (1985). Illusory correlation in the perception of group attitudes. Journal of Personality and Social Psychology, 48, 863-75.

Spears, R., van der Pligt, J., & Eiser, J. R. (1986). Generalizing the illusory effect. Journal of Personality and Social Psychology, 51, 1127-34.

Spender, D. (1980). Man made language. London: Routledge & Kegan Paul.

Srull, T. K., Lichtenstein, M., & Rothbart, M. (1985). Associative storage and retrieval processes in person memory. Journal of Experimental Psychology: Learning, Memory and Cognition, 11, 316-345.

Stangor, C., & Duan, C. (1991) Effects of multiple task demands upon memory for information about social groups. Journal of Experimental Social Psychology, 27, 357-378.

Stangor, C., & Jost, J. T. (1997). Commentary: Individual, group and system levels of analysis and their relevance for stereotyping and intergroup relations. In R. Spears, P. J. Oakes, N. Ellemers & S. A. Haslam (Eds.), The social psychology of stereotyping and group life (pp. 336-58). Oxford, UK/ Cambridge, MA: Blackwell.

Stangor, C., & Lange, J. (1994). Mental representations of social groups: Advances in understanding stereotypes and stereotyping. In M. P. Zanna (Ed.), Advances in experimental social psychology (Vol. 26, pp. 357-416). New York: Academic Press.

Stangor, C., & McMillan, D. (1992). Memory for expectancy-congruent and expectancy-incongruent information: A review of the social and developmental literatures. Psychological Bulletin, 111, 42-61.

Stangor, C., & Schaller, M. (1996). Stereotypes as individual and collective representations. In C. N. Macrae, C. Stangor and M. Hewstone (Eds.), Stereotypes and stereotyping (pp. 3-40). New York: Guildford Press.

Stern, L. D., Marrs, S., Millar, M. G., & Cole, E. (1984). Processing time and the recall of inconsistent and consistent behaviours in individuals and groups. Journal of Personality and Social Psychology, 47, 253-262.

Stroebe, W., & Insko, C. A. (1989). Stereotypes, prejudice and discrimination: Changing conceptions in theory and research. In D. Bar-Tal, C. F. Graumann, A. W. Kruglanski & W. Stroebe (Eds.), Stereotyping and prejudice: Changing conceptions (pp. 3-34). New York & London: Springer Verlag.

Tajfel, H. (1957). Value and the perceptual judgement of magnitude. Psychological Review, 64, 192-204.

Tajfel, H. (1959a). A note on Lambert's "Evaluational Reactions to Spoken Languages". Canadian Journal of Psychology, 13, 86-92.

Tajfel, H. (1959b). Quantitative judgement in social perception. British Journal of Psychology, 50, 16-29.

Tajfel, H. (1963). Stereotypes, Race, 5, 3-14.

Tajfel, H. (1969). Cognitive aspects of prejudice. Journal of Social Issues, 25, 79-97.

Tajfel, H. (1972) Social categorization. In S. Moscovici (Ed.), Introduction a la psychologie sociale (vol. 1). Paris: Larouse. (English Translation).

Tajfel, H. (1978a) (Ed.), Differentiation between social groups: Studies in the social psychology of intergroup relations. London: Academic Press.

Tajfel, H. (1978b). The structure of our views about society. In H. Tajfel & C. Fraser (Eds.), Introducing social psychology (pp. 302-321). Harmondsworth, Middlesex: Penguin.

Tajfel, H. (1981) Social stereotypes and social groups. In J. C. Turner & H. Giles (Eds.), Intergroup behaviour (pp. 144-167). Oxford: Blackwell; Chicago: University of Chicago Press.

Tajfel, H. (1980). The 'New Look' and social differentiations: A semi-Brunerian perspective. In D. Olson (Ed.), The social foundations of language and thought: Essays in honour of J. S. Bruner (pp. 74-89). New York: Norton.

Tajfel, H., Flament, C., Billig, M. G., & Bundy, R. F. (1971). Social categorization and intergroup behaviour. European Journal of Social Psychology, 1, 149-177.

Tajfel, H., Sheikh, A. A., & Gardner, R. C. (1964). Content of stereotypes and the inference of similarity between members of stereotyped groups. Acta Psychologica, 22, 191-201.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), The social psychology of intergroup relations (pp. 33-48). Monterey, CA: Brooks/Cole.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behaviour. In S. Worchel & W. G, Austin (Eds.), The psychology of intergroup relations (2nd ed., pp. 7-24). Chicago: Nelson Hall.

Tajfel, H., & Wilkes, A. L. (1963). Classification and quantitative judgement. British Journal of Psychology, 54, 101-114.

Taylor, S. E. (1981). A categorization approach to stereotyping. In D. L. Hamilton (Ed.) <u>Cognitive processes in stereotyping and intergroup behaviour</u> (pp. 88-114). Hillsdale, NJ: Erlbaum.

Taylor, S. E., & Crocker, J. C. (1981). Schematic bases of social information processing. In E. T. Higgins, C. P. Herman & M. P. Zanna (Eds.), <u>Social cognition: The Ontario symposium on personality and social psychology</u> (vol. 1). Hillsdale, NJ: Erlbaum.

Taylor, S. E., Fiske, S. T., Etcoff, N. L., & Ruderman, A. J. (1978). Categorical and contextual bases of person memory and stereotyping. <u>Journal of Personality and Social Psychology, 36</u>, 778-793.

Tetlock, P. E. (1985). Accountability: The neglected social context of judgement and choice. <u>Research in Organizational Behaviour, 7</u>, 297-332.

Tetlock, P. E., & Boettger, R. (1989). Accountability: A social magnifier of the dilution effect. <u>Journal of Personality and Social Psychology, 57</u>, 388-98.

Triandus, H. C., & Vassiliou, V. (1967). Frequency of contact and stereotyping. <u>Journal of Personality and Social Psychology, 7</u>, 316-328.

Turner, J. C. (1985) Social categorization and the self-concept: A social cognitive theory of group behaviour. In E. J. Lawler (Ed.) <u>Advances in Group Processes</u>. (Vol. 2, pp. 77-121). Greenwich, CT: JAI Press.

Turner, J. C. (1987). A self-categorization theory. In J. C. Turner, M. A. Hogg, P. J. Oakes, S. D. Reicher & M. S. Wetherell, <u>Rediscovering the social group: A self-categorization theory</u> (pp. 42-67). Oxford: Blackwell.

Turner, J. C. (1991). <u>Social Influence</u>. Milton Keynes: Open University Press.

Turner, J. C. (1996). Henri Tajfel: An introduction. In W. P. Robinson (Ed.), <u>Social groups and identities: Developing the legacy of Henri Tajfel</u> (pp. 1-23). Oxford: Butterworth-Heinmann.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D. & Wetherell, M. S. (1987). <u>Rediscovering the social group: A self-categorization theory</u>. Oxford: Blackwell.

Turner, J. C., & Oakes, P. J. (1986). The significance of the social identity concept for social psychology with reference to individualism, interactionism and social influence. British Journal of Social Psychology, 22, 227-39.

Turner, J. C., & Oakes. P. J. (1997). The socially structured mind. In C. McGarty and S. A. Haslam (Eds.), The message of social psychology (pp. 355-73). Oxford, UK/ Cambridge, MA: Blackwell.

Turner, J. C., Oakes, P. J., Haslam, S. A,. & McGarty, C. (1994). Self and collective: Cognition and social context. Personality and Social Psychology Bulletin, 20, 454-63.

Turner, J. C., & Onorato, R. S. (1999). Social identity, personality and the self-concept: A self-categorization perspective. In T. R. Tyler, R. Kramer and O. John (Eds.), The psychology of the social self (pp. 11-46). Hillsdale, NJ: Lawrence Erlbaum.

van Knippenberg, A., van Twuyver, M., & Pepels, J. (1994). Factors affecting social categorization processes in memory. British Journal of Social Psychology, 33, 419-32.

Vinacke, W. E. (1949). Stereotypes among national-racial groups in Hawaii: A study in ethnocentrism. Journal of Social Psychology, 30, 265-91.

Vinacke, W. E. (1956). Explorations in the dynamic process of stereotyping. Journal of Social Psychology, 43, 105-32.

Vinacke, W. E. (1957). Stereotypes as social concepts. Journal of Social Psychology, 46, 229-43.

Weber, R., & Crocker, J. (1983). Cognitive processes in the revision of stereotypic beliefs. Journal of Personality and Social Psychology, 45, 961-77.

Wetherell, M. S. (1987). Social identity and group polarization. In J. C. Turner, M. A. Hogg, P. J. Oakes, S. D. Reicher & M. S. Wetherell, Rediscovering the social group: A self-categorization theory (pp. 142-70). Oxford: Blackwell.

Wilder, D. A. (1981). Perceiving persons as a group: Categorization and intergroup relations. In D. L. Hamilton (Ed.), Cognitive processes in stereotyping and intergroup behaviour (pp. 213-57). Hillsdale, NJ: Erlbaum.

Wilder, D. A. (1986). Social categorization: Implications for creation and reduction of intergroup bias. In L. Berkowitz (Ed.), Advances in experimental social psychology, (vol. 19, pp. 293-355). New York: Academic Press.

Wisniewski, E. J., & Medin, D. L. (1994). On the interaction of theory and data in concept learning. Cognitive Science, 18, 221-281.

Wittenbrink B., Gist, P. L., & Hilton, J. L. (1997). Structural properties of stereotypic knowledge and their influences on the construal of social situations. Journal of Personality and Social Psychology, 72, 526-543.

Wittenbrink, B., Hilton, J. L., & Gist, P. L. (1998). In search of similarity: Stereotypes as naive theories in social categorization. Social Cognition, 16, 31-55.

Wittenbrink, B., Park, B., & Judd, C. M. (1998). The role of stereotypic knowledge in the construal of person models. In C. Sedikides, J. Schopler, and Insko, C. A. (Eds.), Intergroup cognition and intergroup behaviour (pp. 177-202). New Jersey: Erlbaum.

Yzerbyt, V. Y., Leyens, J-P., & Corneille, O. (1998). Social judgeability and the bogus pipeline: The role of naive theories of judgement in impression formation. Social Cognition, 16, 56-77.

Yzerbyt, V. Y., Rocher, S., & Schadron, G. (1997). Stereotypes as explanations: A subjective essentialistic view of group perception. In R. Spears, P. J. Oakes, N. Ellemers & S. A. Haslam (Eds.), The social psychology of stereotyping and group life (pp. 20-50). Oxford, UK/ Cambridge, MA: Blackwell.

Yzerbyt, V. Y., Schadron, G., Leyens, J-P., & Rocher, S. (1994). Social judgeability: The impact of meta-informational cues on the use of stereotypes. Journal of Personality and Social Psychology, 66, 48-55.

Zadny, J., & Gerard, H. B. (1974). Attributed intentions and informational selectivity. Journal of Experimental Social Psychology, 10, 34-52.

Zebrowitz, L. A. (1996). Physical appearance as a basis of stereotyping. In C. N. Macrae, C. Stangor and M. Hewstone (Eds.), Stereotypes and stereotyping (pp. 79-120). New York: Guildford Press.

Appendices

Appendix A: Stimulus Materials

Chapter 7 - Stimulus statements used in Experiments 1 and 2 (in order of presentation)

High comparative fit for friendliness condition

A member of Group A gets his hair cut regularly.

A member of Group B has two brothers.

A member of Group A attends foreign language films.

A member of Group B always introduces her friends to each other.

A member of Group A eats three meals a day.

A member of Group A has her birthday in June.

A member of Group A avoids acquaintances in the street.

A member of Group B likes to spend time with friends.

A member of Group B goes shopping on Wednesdays.

A member of Group A invests her money wisely.

A member of Group B catches the bus to work.

A member of Group B is always laughing.

A member of Group A is interested in current affairs.

A member of Group B is a slow reader.

A member of Group A is often abrupt.

A member of Group B forgets to pay bills on time.

A member of Group B regularly hosts dinner parties.

A member of Group B made the same mistake three times.

A member of Group A hates team sports.

A member of Group B brushes her teeth in the morning.

A member of Group B seems to know everybody.

A member of Group A seldom goes to parties.

A member of Group A is an avid reader.

A member of Group A grew up in Canberra.

A member of Group A prefers to travel alone.

A member of Group B took a lift to the third floor.

A member of Group A was top of her class.

A member of Group B enjoys meeting people.

A member of Group B sometimes watches television.

A member of Group A failed his driver's test for the fourth time.

A member of Group A suffers from hayfever.

A member of Group B attended the symphony concert.

A member of Group A has milk in her coffee.

A member of Group A never lends anything.

A member of Group B has difficulty following street maps.

A member of Group B went away and forgot to lock the house.

High comparative fit for intelligence

A member of Group B eats three meals a day.

A member of Group B grew up in Canberra.

A member of Group A gives directions to tourists.

A member of Group A brushes her teeth in the morning.

A member of Group A is interested in current affairs.

A member of Group A likes to do things by herself.

A member of Group B belongs to a number of social clubs.

A member of Group B has difficulty following street maps.

A member of Group B gets his hair cut regularly.

A member of Group A hates making small talk.

A member of Group B always introduces her friends to each other.

A member of Group B went away and forgot to lock the house.

A member of Group A took a lift to the third floor.

A member of Group A is an avid reader.

A member of Group B forgot to renew her driver's licence.

A member of Group A seldom goes to parties.

A member of Group B suffers from hayfever.

A member of Group B finds crossword puzzles difficult.

A member of Group B has milk in her coffee.

A member of Group A catches the bus to work.

A member of Group B never reads anything except magazines.

A member of Group B has her birthday in June.

A member of Group B regularly hosts dinner parties.

A member of Group A can add up numbers in her head.

A member of Group B made the same mistake three times.

A member of Group B is always laughing.

A member of Group A finds it hard to chat to strangers.

A member of Group A was top of her class.

A member of Group B is always smiling.

A member of Group A prefers to travel alone.

A member of Group A has an extensive vocabulary.

A member of Group A has two brothers.

A member of Group A invests her money wisely.

A member of Group A sometimes watches television.

A member of Group B seldom initiates conversation with others.

A member of Group A goes shopping on Wednesdays.

Chapter 8 - Stimulus statements used in Experiments 3 and 4 (in order of presentation)

High comparative fit for friendliness condition

A member of Group B made the same mistake at work 2 times.

A member of Group B spent every Saturday doing volunteer work for the local school.

A member of Group B took the day's garbage out before going to bed.

A member of Group A watched a documentary on the ABC.

A member of Group A beat his friend in a game of checkers.

A member of Group B went to the barber on Saturday morning and got a haircut.

A member of Group A listened to a complex debate between the politicians.

A member of Group B listened to a storm warning announcement on the radio.

A member of Group A remembered a list of telephone numbers.

A member of Group A avoids acquaintances in the street.

A member of Group B came out the back of a store and couldn't figure out where he was.

A member of Group B went to visit his friend who was sick in hospital.

A member of Group B took a wrong turn and got lost on his way home from work.

A member of Group A never has time for others.

A member of Group B brought some groceries on his way home from work.

A member of Group B spent christmas and new year's eve on the Gold Coast.

A member of Group a shouted and honked his horn at another driver on the road.

A member of Group A was insensitive to the department store salesperson.

A member of Group B smiled at people as he walked down the street.

A member of Group A went to buy a CD after work.

A member of Group A can add up numbers in his head.

A member of Group A bought a new pair of tennis shoes.

A member of Group B introduced himself to stranger on the bus.

A member of Group B finds crossword puzzles difficult.

A member of Group A has milk in his coffee.

A member of Group A catches a bus to work.

A member of Group B has difficulty following street maps.

A member of Group A never lends anything.

A member of Group B seems to know everyone.

A member of Group A suffers from hayfever.

High comparative fit for intelligence

A member of Group B failed his written driver's test for the fourth time.

A member of Group A scolded the child for being disobedient.

A member of Group B pointed out the train station to the foreign tourist.

A member of Group A has milk in his coffee.

A member of Group A successfully completed his honour's thesis with first class honours.

A member of Group B regularly hosts dinner parties.

A member of Group B said thank-you to the checkout person in the grocery store as he was leaving.

A member of Group B went to a party with his friends over the weekend.

A member of Group A received top prize for his senior essay from the chair of the English department.

A member of Group B painted his living room in 3 colours because he couldn't figure out how to mix the paint correctly.

A member of Group A made an off-hand remark to his next-door neighbour.

A member of Group B went to the movies with his friends one Friday night.

A member of Group B bought some groceries on his way home from work.

A member of Group A bought a new pair of tennis shoes.

A member of Group A earned a Ph.D in electrical engineering in 3 years.

A member of Group A had a quarrel with his roommate one evening.

A member of Group B spent christmas and new year's eve on the Gold Coast.

A member of Group B mailed his letters in the garbage bin on the street because he thought it was a mailbox.

A member of Group A invented and patented an automatic irrigation system to water his garden.

A member of Group B took out the day's garbage before going to bed.

A member of Group A received a high distinction on his exam.

A member of Group A went to buy a CD after work.

A member of Group B went on holidays and forgot to lock the house.

A member of Group B couldn't follow the simple instructions correctly.

A member of Group B went to the barber on Saturday morning and got a haircut.

A member of Group A tend to be a loner.

A member of Group A catches the bus to work.

A member of Group A suffers from hayfever.

A member of Group B listened to a storm warning announcement on the radio.

A member of Group A seldom goes to parties.

Chapter 9 - Stimulus statements used in Experiment 5 (both videos) and Experiment 6 (high fit video only) (in order of presentation)

High fit video

A member of Group A visited his grandmother every weekend.

A member of Group B hates making small talk.

A member of Group B went to buy a CD after work.

A member of Group A borrowed a book from the library.

A member of Group B never has time for others.

A member of Group A bought some groceries on the way home from work.

A member of Group A smoked a cigar in the non-smoking section of the restaurant.

A member of Group B watched some TV on the weekend.

A member of Group B pushed rudely across people to get a theatre seat.

A member of Group A listened to a football game on the radio.

A member of Group A smiled at people while walking down the street.

A member of Group A has milk in coffee.

A member of Group A likes to spend time with friends.

A member of Group B helped a young boy repair his bike.

A member of Group B belongs to a number of social clubs.

A member of Group B bought a new pair of tennis shoes.

A member of Group a went to the barber and got a haircut.

A member of Group A introduced himself to strangers on the bus.

A member of Group A was inconsiderate to citizens of another country.

A member of Group B bought a new suit that was on sale.

A member of Group A regularly writes to friends overseas.

A member of Group B regularly hosts dinner parties.

A member of Group A looked after his neighbour's pets while there were on holidays.

A member of Group B never lends anything.

A member of Group A scolded and bullied his assistant at work.

A member of Group B listened to a storm warning announcement on the radio.

A member of Group B seldom goes to parties.

A member of Group A eats three meals a day.

A member of Group B refused to give the thirsty paper boy a drink of water.

A member of Group A always introduces friends to each other.

A member of Group B is often abrupt.

A member of Group B seldom initiates conversation with others.

A member of Group B avoids acquaintances in the street.

A member of Group A seems to know everyone.

A member of Group B bought a newspaper on the way home from work.

A member of group A enjoys meeting people.

No fit video

A member of Group B avoids acquaintances in the street.

A member of Group B is often abrupt.

A member of Group B helped a young boy repair his bike.

A member of Group A likes to spend time with friends.

A member of Group A never lends anything.

A member of Group B hates making small talk.

A member of Group A regularly writes to friends overseas.

A member of Group A introduced himself to strangers on the bus.

A member of Group A seldom initiates conversation with others.

A member of Group A always introduces friends to each other.

A member of Group A was inconsiderate to citizens of another country.

A member of Group B bought a new pair of tennis shoes.

A member of Group A bought some groceries on the way home from work.

A member of Group B pushed rudely across people to get a theatre seat.

A member of Group A smiled at people walking down the street.

A member of Group B went to buy a CD after work.

A member of Group A scolded and bullied his assistant at work.

A member of Group A smoked a cigar in the non-smoking section of the restaurant.

A member of Group A listened to a football game on the radio.

A member of Group A went to the barber and got a haircut.

A member of Group a visited his grandmother every weekend.

A member of Group B watched some TV on the weekend.

A member of Group B refused to give the thirsty paper boy a drink.

A member of Group A has milk in coffee.

A member of Group B seems to know everybody.

A member of Group B enjoys meeting people.

A member of Group B regularly hosts dinner parties.

A member of Group B belongs to a number of social clubs.

A member of Group a borrowed a book from the library.

A member of Group B looked after his neighbour's pets while they were away on holidays.

A member of Group B bought a newspaper on the way home from work.

A member of Group B seldom goes to parties.

A member of Group B listened to a storm warning announcement on the radio.

A member of Group A eats three meals a day.

A member of Group A never has time for others.

A member of Group B bought a new suit that was on sale.

Chapter 11 - Transcripts of stimulus interviews used in Experiment 7

Transcript of interview with 'consistent' stimulus person (Dave)

Interviewer: Can you tell me your name please?

Dave: Dave.

I: And what's your nationality?

D: Umm, Australian.

I: And how old are you Dave?

D: Ah, twenty-seven.

I: And what is your occupation?

D: Ah, well, I'm actually unemployed. have been for, oh, about a year and a half now.

I: Are you married Dave? Do you have any children?

D: No I'm not married and no I don't have any children.

I: OK, ... where did you spend you childhood Dave?

D: Ah, in Sydney.

I: And did you go to school there?

D: Yep.

I: OK ... I want to talk a little bit about your school days. Can you try to tell me a little about your school and about your experiences there?

D: Ah, yeah, the school I went to was, umm, not a bad school I guess. Umm, but I never liked school very much. I didn't try very hard, ah, missed a lot of classes. It just seemed too much like hard work you know. And I just wasn't interested. And, uh, the teachers never liked me.

I: And have you had any further education or training since leaving school?

D: Ah, yeah, I started a TAFE course when I left school but I dropped out after a year 'cause I ended up failing most things. I guess I just partied too much. Umm, since I've been unemployed the CES is always trying to send me on those, you know, trainin' courses. But I don't go to any of them. Can't see the point really. They usually sound like they'd be dead boring. Uh, can't see what I'd get out of them.

I: Could you describe your living arrangements to me? That is, what sort of dwelling do you live in and who do you share it with?

D: Umm, yeah, I live in a two-bedroom flat. Ah, I share it with one of my mates and we rent it together.

I: I've been asking people to describe their typical day to me. Can you try to describe a typical day to me Dave?

D: Umm, ... yeah, well, you know 'cause I'm not working and that, I usually get out of bed, oh, about lunchtime and been up watching late so I'm pretty tired and that. Ah, most afternoons I just head down to the pub to meet my mates. We play a bit of pool and vids, things like that. Umm ... on racedays I spend a bit of time at the TAB. You know, I like to have a bit of a flutter, oh, that's if I've got any dole money left. Stuff like that.

I: OK, and how do you see you future Dave? Where do you think you'll be, for example, this time next year?

D: Oh, jeez, oh, I dunno. Probably be in the same situation I'm in now. Like, I just don't hold out much hope of finding a job. Don't really see the point of looking for work. The only jobs I ever get offered are, like, boring ones or unskilled ones. Its just not fair - might as well give up.

I: Now I'd like to ask you some questions concerning you attitudes to Australian society and ... (fade away).

Transcript of interview with 'inconsistent' stimulus person (Dave)

Interviewer: Can you tell me your name please?

Dave: Yeah, Dave.

I: And what's your nationality?

D: I'm Australian.

I: How old are you Dave?

D: I'm twenty-seven.

I: And what's your occupation?

D: Ah, well, actually I'm unemployed. Have been for about a year and a half now.

I: Are you married Dave? Do you have any children?

D: Ah, no I'm not married and no I don't have any children.

I: Where did you spend you childhood Dave?

D: In Sydney.

I: Did you go to school there?

D: Ah, yeah.

I: OK ... I want to talk a little bit about your school days. Can you try and tell me a little about your school and about your experiences there?

D: Umm, sure, umm, yeah, I quite liked school really and I thought I was of average intelligence and I tried very hard because I found it, ah, pretty interesting. Umm, I guess I did alright at school. You know, like, the school that I went to might not have been really good because it was in a working-class suburb, but I, I, think I still got a pretty education.

I: And what about since school, have you had any further education or training?

D: Ah, yeah, actually I have. Umm, I did a TAFE course when I left school. It got pretty hard going at times because I had to support myself but I still managed to finish it. And since I've been unemployed the CES has encouraged me to go to training courses and I've been along to a few now and they're, oh, pretty interesting. I figure it, you know, I figure it can't hurt to be better trained. At least I feel like I'm, you know, doing something.

I: Could you describe your living arrangements to me? That is, what sort of dwelling do you live in and who do you share it with?

D: Umm, yeah, I live in a two-bedroom flat. Ah, I share it with one of my mates and we rent it together.

I: OK ... I've been asking people to try and describe their typical day to me. Can you try to describe a typical day to me Dave?

D: Ah, sure. OK now. Well, I like to have a routine, so I try to get up early as if I'm going to work each day. Ah, then, umm, most days I look through the paper to see if there's any jobs and the, umm, oh yes, I go down to the CES a couple of times a week and, oh, if there are any jobs there that I think I've got the slightest chance at, I apply for them. You know I'm not fussy. Sometimes, umm, I do some volunteer work. I like staying fit also so, you know, afternoons I meet up with a couple of my mates and, I dunno, we play soccer or cricket. Things like that.

I: OK ... How do you see you future Dave? Where do you think you'll be, for example, this time next year?

D: Oh, this time next year, well, oh, I don't like my chances of finding a job. I don't really see what else I can personally do towards getting one. Oh, its frustrating because I think I'm just as good as many people who are employed. I guess my plans are to keep trying.

I: Now I'd like to ask you some questions concerning you attitudes to Australian society and ... (fade away).

Transcript of interview with 'neutral' stimulus person (Cathy)

Interviewer: Can you tell me your first name please?

Cathy: Cathy.

I: And what's your nationality?

C: I'm Australian.

I: OK, and how old are you Cathy?

C: *I'm twenty-eight years old.*

I: And what's your occupation?

C: *Ah, I work as a secretary for a law firm.*

I: Are you married Cathy? Do you have any children?

C: *Yes, I've been married for seven years and I've got two children. There's Joshua, he's five and he's at school now, and, and, Amy's three.*

I: Where did you spend you childhood Cathy?

C: *I grew up in Perth.*

I: And did you go to school there?

C: *Yeah, until grade 7 and then my family moved to Melbourne.*

I: OK ... I want to talk a little bit about your school days. I'm wondering, can you tell me a little about your school and about your experiences there?

C: *Oh, oh (laughs) its hard to remember that long ago. But school was a pretty good time I guess. Ah, I had a lot of fun there and, umm, I made some good friends.*

I: And have you had any further education or training since leaving school?

C: *umm, yes, I did a TAFE course when I left school and umm, that was in secretarial studies.*

I: Ok ... Could you describe your living arrangements to me? That is, what sort of dwelling do you live in and who do you share it with?

C: *I live in a three-bedroom house with my husband and two children.*

I: I've been asking people to describe their typical day to me. Can you try to describe your typical day to me Cathy?

C: *Oh, pretty normal I guess. I'm either at work or, umm, on weekends I try to spend time with my family. I'm a pretty keen netball player but, but its hard to find the time with the little ones, you know.*

I: And how do you see you future Cathy? Where do you think you'll be, for example, this time next year?

C: Umm, well I imagine nothing will be too different to how it is now. Umm, my children are getting older so that might mean a few changes. But, but I think life will be pretty much the same for a while... yeah.

I: Now I'd like to ask you some questions concerning you attitudes to Australian society and ... (fade away).

Appendix B: Checklists

Chapter 8 - Checklist Adjectives Used In Experiments 3 And 4

intelligent	argumentative	brilliant	courteous	scientifically-minded
conventional	straightforward	alert	sophisticated	shrewd
ignorant	sly	reserved	impulsive	quiet
imaginative	industrious	stupid	quick-tempered	passionate
stubborn	unreliable	deceitful	naive	happy-go-lucky
jovial	honest	methodical	faithful	pleasure-loving
friendly	vague	evasive	kind	sensitive
neat	practical	cruel	generous	absent-minded
persistent	frivolous	aggressive	gregarious	unfriendly
tradition-loving	conservative	conceited	ambitious	individualistic
efficient	talkative	rude	loud	arrogant
preoccupied	radical			

Chapter 9 - Checklist Adjectives Used In Experiment 5

intelligent	courteous	argumentative	shrewd	sly
reserved	quiet	quick-tempered	deceitful	happy-go-lucky
jovial	pleasure-loving	friendly	faithful	evasive
kind	sensitive	neat	kind	sensitive
neat	cruel	generous	absent-minded	aggressive
gregarious	unfriendly	conceited	arrogant	radical
talkative	rude	loud		

Chapter 11 - Checklist Adjectives Used In Experiment 7

intelligent	brilliant	sophisticated	witty	scientifically-minded
alert	shrewd	sly	meditative	imaginative
stupid	ignorant	practical	naive	industrious
lazy	honest	deceitful	unreliable	evasive
unmotivated	progressive	radical	conservative	kind
generous	dependent	mercenary	materialistic	efficient
quarrelsome	nationalistic	sportsmanlike	aggressive	conceited
boastful	ambitious	ostentatious	blameless	individualistic
unlucky	loud	fussy	whingeing	underprivileged
rude	talkative	suave	courteous	conventional
argumentative	loyal	suspicious	reserved	straightforward
quiet	unemotional	ponderous	stubborn	impulsive
suggestible	passionate	arrogant	jovial	quick-tempered
humourless	sensitive	methodical	neat	pleasure-loving
persistent	imitative	frivolous	gregarious	happy-go-lucky
slovenly	educated	faithful	grasping	tradition-loving

Appendix C: Statistical Appendices

Chapter 7

Table C1

Comparative Fit (high for friendliness/high for intelligence) x Dimension (friendliness/intelligence) ANOVA of trait rating difference scores: Experiment 1

Sources of variation	df	MS	F	p
Between subjects				
Within cells	62	10.47		
Comp. Fit	1	3.32	.32	.576
Within subjects				
Within cells	62	2.47		
Dimension	1	31.44	12.75	.001
Comp. Fit x Dimension	1	41.44	16.81	.000

Table C2

Comparative Fit (high for friendliness/high for intelligence) x Dimension (friendliness/intelligence) ANOVA of number of thoughts generated: Experiment 1

Sources of variation	df	MS	F	p
Between subjects				
Within cells	62	1.11		
Comp. Fit	1	.00	.00	.962
Within subjects				
Within cells	62	1.31		
Dimension	1	28.53	21.70	.000
Comp. Fit x Dimension	1	4.78	3.64	.061

Table C3

Comparative Fit (high for friendliness/high for intelligence) x group (A/B) ANOVA of relative positivity of thoughts generated: Experiment 1

Sources of variation	df	MS	F	p
Between subjects				
Within cells	62	.97		
Comp. Fit	1	.01	.01	.924
Within subjects				
Within cells	62	1.64		
group	1	20.35	12.41	.001
Comp. Fit x group	1	9.10	5.55	.022

Table C4

Comparative Fit (high for friendliness/high for intelligence) x Dimension (friendliness/intelligence) ANOVA of number of recalled behaviours: Experiment 1

Sources of variation	df	MS	F	p
Between subjects				
Within cells	62	4.35		
Comp. Fit	1	18.78	4.32	.042
Within subjects				
Within cells	62	2.06		
Dimension	1	7.15	3.47	.067
Comp. Fit x Dimension	1	14.46	7.03	.010

Table C5

Comparative Fit (high for friendliness/high for intelligence) x Label (consistent/inconsistent) x Dimension (friendliness/intelligence) ANOVA of trait rating difference scores: Experiment 2 - Full Sample

Sources of variation	df	MS	F	p
Between subjects				
Within cells	78	6.57		
Comp. Fit	1	.00	.00	.998
Label	1	98.62	15.00	.000
Comp. Fit x Label	1	.01	.01	.936
Within subjects				
Within cells	78	2.48		
Dimension	1	18.91	7.63	.007
Comp. Fit x Dim.	1	11.03	4.45	.038
Label x Dim	1	1.21	.49	.487
Comp. Fit x Lab. x Dim	1	1.07	.43	.513

Table C6

Comparative Fit (high for friendliness/high for intelligence) x Label (consistent/inconsistent) x Dimension (friendliness/intelligence) ANOVA of trait rating difference scores: Experiment 2 - Reduced Sample

Sources of variation	df	MS	$\underline{F}$	$\underline{p}$
Between subjects				
Within cells	65	6.39		
Comp. Fit	1	.27	.04	.837
Label	1	80.58	12.62	.001
Comp. Fit x Label	1	.25	.04	.843
Within subjects				
Within cells	65	2.22		
Dimension	1	17.96	8.07	.006
Comp. Fit x Dim.	1	8.61	3.87	.053
Label x Dim	1	.03	.02	.903
Comp. Fit x Lab. x Dim	1	3.28	1.48	.229

Table C7

Comparative Fit (high for friendliness/high for intelligence) x Label
(consistent/inconsistent) x Dimension (friendliness/intelligence) ANOVA of number
of thoughts generated: Experiment 2 - Full Sample

Sources of variation	df	MS	F	p
Between subjects				
Within cells	78	.99		
Comp. Fit	1	.19	.19	.661
Label	1	18.60	18.80	.000
Comp. Fit x Label	1	.40	.41	.526
Within subjects				
Within cells	78	1.88		
Dimension	1	32.74	17.38	.000
Comp. Fit x Dim.	1	.01	.01	.939
Label x Dim	1	10.81	5.74	.019
Comp. Fit x Lab. x Dim	1	.01	.01	.934

Table C8

Comparative Fit (high for friendliness/high for intelligence) x Label
(consistent/inconsistent) x Dimension (friendliness/intelligence) ANOVA of number
of thoughts generated: Experiment 2 - Reduced Sample

Sources of variation	df	MS	F	p
Between subjects				
Within cells	65	1.00		
Comp. Fit	1	.39	.39	.535
Label	1	18.03	18.08	.000
Comp. Fit x Label	1	.65	.65	.423
Within subjects				
Within cells	65	1.84		
Dimension	1	28.25	15.35	.000
Comp. Fit x Dim.	1	.00	.00	.963
Label x Dim	1	6.19	3.36	.071
Comp. Fit x Lab. x Dim	1	.48	.26	.610

Table C9

Comparative Fit (high for friendliness/high for intelligence) x Label (consistent/inconsistent) x Group (A/B) ANOVA of relative positivity of thoughts generated: Experiment 2 - Full Sample

Sources of variation	df	MS	F	p
Between subjects				
Within cells	78	.95		
Comp. Fit	1	1.12	1.18	.282
Label	1	.44	.47	.497
Comp. Fit x Label	1	.11	.11	.740
Within subjects				
Within cells	78	2.55		
Group	1	14.52	5.69	.020
Comp. Fit x Group	1	.89	.35	.558
Label x Group	1	31.74	12.43	.001
Comp. Fit x Lab. x Grp.	1	.35	.14	.711

Table C10

Comparative Fit (high for friendliness/high for intelligence) x Label (consistent/inconsistent) x Group (A/B) ANOVA of relative positivity of thoughts generated: Experiment 2 - Reduced Sample

Sources of variation	df	MS	F	p
Between subjects				
Within cells	65	1.04		
Comp. Fit	1	1.16	1.11	.296
Label	1	.50	.48	.490
Comp. Fit x Label	1	.05	.05	.830
Within subjects				
Within cells	65	2.51		
Group	1	10.76	4.30	.042
Comp. Fit x Group	1	1.35	.54	.465
Label x Group	1	22.90	9.14	.004
Comp. Fit x Lab. x Grp.	1	1.08	.43	.514

Table C11

Comparative Fit (high for friendliness/high for intelligence) x Label (consistent/inconsistent) x Dimension (friendliness/intelligence) ANOVA of number of recalled behaviours: Experiment 2 - Total Sample

Sources of variation	df	MS	F	p
Between subjects				
Within cells	77	3.50		
Comp. Fit	1	19.33	5.52	.021
Label	1	.11	.03	.861
Comp. Fit x Label	1	6.79	1.94	.168
Within subjects				
Within cells	77	1.37		
Dimension	1	3.23	2.36	.129
Comp. Fit x Dim.	1	1.44	1.05	.308
Label x Dim	1	.60	.44	.508
Comp. Fit x Lab. x Dim	1	.30	.22	.642

Table C12

Comparative Fit (high for friendliness/high for intelligence) x Label

(consistent/inconsistent) x Dimension (friendliness/intelligence) ANOVA of number

of behaviours recalled: Experiment 2 - Reduced Sample

Sources of variation	df	MS	F	p
Between subjects				
Within cells	64	3.58		
Comp. Fit	1	13.33	3.72	.058
Label	1	.76	.21	.646
Comp. Fit x Label	1	9.03	2.52	.117
Within subjects				
Within cells	64	1.15		
Dimension	1	.86	.75	.391
Comp. Fit x Dim.	1	.13	.12	.733
Label x Dim	1	1.16	1.01	.318
Comp. Fit x Lab. x Dim	1	.74	.65	.425

Chapter 8

Table C13

Comparative Fit (high for friendliness/high for intelligence) x Dimension (friendliness/intelligence) ANOVA of trait rating difference scores: Experiment 3

Sources of variation	df	MS	F	p
Between subjects				
Within cells	18	3.11		
Comp. Fit	1	2.50	.81	.381
Within subjects				
Within cells	18	2.68		
Dimension	1	12.10	4.51	.048
Comp. Fit x Dimension	1	19.60	7.30	.015

Table C14

Comparative Fit (high for friendliness/high for intelligence) x Dimension (friendliness/intelligence) ANOVA of positivity scores: Experiment 3

Sources of variation	df	MS	F	p
Between subjects				
Within cells	18	2.00		
Comp. Fit	1	4.90	2.45	.135
Within subjects				
Within cells	18	2.71		
Group	1	36.10	13.32	.002
Comp. Fit x Group	1	44.10	16.27	.001

Table C15

Comparative Fit (high for friendliness/high for intelligence) x Label (consistent/inconsistent) x Dimension (friendliness/intelligence) ANOVA of trait rating difference scores: Experiment 4

Sources of variation	df	MS	$\underline{F}$	$\underline{p}$
Between subjects				
Within cells	40	8.05		
Comp. Fit	1	7.28	.90	.347
Label	1	6.72	.83	.366
Comp. Fit x Label	1	.07	.01	.927
Within subjects				
Within cells	40	2.82		
Dimension	1	17.75	6.31	.016
Comp. Fit x Dim.	1	7.92	2.81	.101
Label x Dim	1	.25	.09	.766
Comp. Fit x Lab. x Dim	1	2.06	.73	.397

Table C16

Comparative Fit (high for friendliness/high for intelligence) x Label

(consistent/inconsistent) x Dimension (friendliness/intelligence) ANOVA of

positivity scores: Experiment 4

Sources of variation	df	MS	$\underline{F}$	$\underline{p}$
Between subjects				
Within cells	40	2.21		
Comp. Fit	1	9.71	4.40	.042
Label	1	4.77	2.16	.149
Comp. Fit x Label	1	2.39	1.08	.304
Within subjects				
Within cells	40	3.08		
group	1	31.48	10.22	.003
Comp. Fit x Group	1	21.89	7.11	.011
Label x Group	1	.17	.05	.817
Comp. Fit x Lab. x Grp.	1	.27	.09	.767

Chapter 9

Table C17

Fit (high/no normative/no comparative) x Theory Generation (no theory/theory) ANOVA of trait rating difference scores: Experiment 5

Sources of variation	df	MS	F	p
Main Effects				
Fit	2	25.11	3.54	.035
Theory Generation	1	.23	.03	.859
2-way Interaction				
Fit x Theory Gen.	2	2.42	.34	.713
Residual	58	7.10		

Table C18

Fit (high/no normative/no comparative) x Theory Generation (no theory/theory) ANOVA of similarity scores: Experiment 5

Sources of variation	df	MS	F	p
Main Effects				
Fit	2	4.38	1.36	.264
Theory Generation	1	.06	.02	.893
2-way Interaction				
Fit x Theory Gen.	2	8.34	2.59	.084
Residual	57	3.22		

Table C19

Fit (high/no normative/no comparative) x Theory Generation (no theory/theory) x Group (A/B) ANOVA of composite friendliness scores: Experiment 5

Sources of variation	df	MS	F	p
Between subjects				
Within cells	54	.89		
Fit	2	1.55	1.75	.184
Theory Generation	1	2.36	2.66	.109
Fit x Theory Gen.	2	1.27	1.43	.247
Within subjects				
Within cells	54	4.84		
Group	1	104.11	21.53	.000
Fit x Group	2	5.67	1.17	.317
Theory Gen. x Group	1	.13	.03	.871
Fit x Theory Gen. x Grp	2	10.36	2.14	.127

Table C20

Fit (high/no normative/no comparative) x Theory Generation (no theory/theory) x Group (tour guides/chess players) ANOVA of friendliness ratings: Experiment 5

Sources of variation	df	MS	F	p
Between subjects				
Within cells	58	1.98		
Fit	2	3.71	1.87	.164
Theory Generation	1	1.86	.94	.338
Fit x Theory Gen.	2	.26	.13	.880
Within subjects				
Within cells	58	3.25		
Group	1	201.54	62.07	.000
Fit x Group	2	1.56	.48	.620
Theory Gen. x Group	1	15.33	4.72	.034
Fit x Theory Gen. x Grp	2	4.23	1.30	.280

Table C21

Fit (high/no normative/no comparative) x Theory Generation (no theory/theory) ANOVA of interest scores: Experiment 5

Sources of variation	df	MS	F	p
Main Effects				
Fit	2	8.47	3.24	.046
Theory Generation	1	.25	.10	.757
2-way Interaction				
Fit x Theory Gen.	2	4.10	1.57	.217
Residual	58	2.61		

Chapter 10

Table C22

Theory (individual/social) x Label (consistent/inconsistent) ANOVA of levels of agreement with theory: Experiment 6

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	1.07	.36	.551
Label	1	3.39	1.14	.290
2-way Interaction				
Theory x Label	1	4.46	1.50	.226
Residual	53	2.96		

Table C23

Mean scores for trait rating and percentage estimate measures for group A and B (and standard deviations): Experiment 6

Theory:	No		Fixed		Variable	
Label:	Cons	Incons	Cons	Incons	Cons	Incons
TRAIT RATINGS						
Group A	7.62	5.65	6.71	5.79	6.86	6.67
	(.77)	(1.69)	(1.49)	(1.12)	(1.23)	(1.63)
Group B	3.69	4.12	4.29	5.14	4.07	4.20
	(1.70)	(1.36)	(1.44)	(1.61)	(1.49)	(1.57)
PERCENTAGE ESTIMATE						
Group A	81.62	63.24	74.64	58.00	72.29	68.00
	(7.6)	(18.7)	(15.5)	(17.5)	(12.68)	(16.56)
Group B	39.46	38.82	40.71	50.14	38.36	38.00
	(21.3)	(18.8)	(19.5)	(19.1)	(17.7)	(23.1)

Table C24

Theory (no/individual/social) x Label (consistent/inconsistent) ANOVA of 'friendliness stereotyping' scores: Experiment 6

Sources of variation	df	MS	$\underline{F}$	$\underline{p}$
Main Effects				
Theory	2	12.76	1.77	.177
Label	1	49.33	6.85	.011
2-way Interaction				
Theory x Label	2	8.42	1.17	.316
Residual	81	7.20		

Table C25

Theory (no/individual/social) x Label (consistent/inconsistent) ANOVA of 'stereotyping' scores: Experiment 6

Sources of variation	df	MS	F	p
Main Effects				
Theory	2	10.79	5.27	.007
Label	1	9.03	4.41	.039
2-way Interaction				
Theory x Label	2	4.19	2.05	.136
Residual	81	2.05		

Table C26

Theory Type (no/individual/social) x Label (consistent/inconsistent) x Attribution Type (individual/group) ANOVA of attribution ratings: Experiment 6

Sources of variation	df	MS	F	p
Between subjects				
Within cells	79	3.11		
Theory	2	4.35	1.40	.253
Label	1	25.41	8.17	.005
Theory x Label	2	.92	.30	.744
Within subjects				
Within cells	79	4.56		
Attribution	1	245.69	53.85	.000
Theory x Attribution	2	19.10	4.19	.019
Label x Attribution	1	9.79	2.15	.147
Theory x Lab. x Attrib.	2	5.12	1.12	.331

Table C27

Theory (no/individual/social) x Label (consistent/inconsistent) ANOVA of interest scores: Experiment 6

Sources of variation	df	MS	F	p
Main Effects				
Theory	2	39.33	12.41	.000
Label	1	8.57	2.70	.104
2-way Interaction				
Theory x Label	2	.44	.14	.870
Residual	81	3.17		

Chapter 11

Table C28

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of 'effort' scores (Q1): Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	.23	.20	.656
Interview	1	322.71	279.84	.000
2-way Interaction				
Theory x Interview	1	.33	.28	.597
Residual	46	1.15		

Table C29

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of 'like' scores (Q2): Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	2.57	1.25	.270
Interview	1	162.14	78.73	.000
2-way Interaction				
Theory x Interview	1	.06	.03	.863
Residual	46	2.06		

Table C30

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of 'statement' scores (Q3): Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	80.20	10.19	.003
Interview	1	5.06	.64	.427
2-way Interaction				
Theory x Interview	1	6.25	.79	.378
Residual	46	7.87		

Table C31

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of 'similar agree' scores (Q4): Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	7.76	1.80	.186
Interview	1	16.73	3.88	.055
2-way Interaction				
Theory x Interview	1	.09	.02	.885
Residual	46	4.31		

Table C32

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of 'similar disagree' scores (Q5): Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	32.10	13.02	.001
Interview	1	22.38	9.07	.004
2-way Interaction				
Theory x Interview	1	14.90	6.04	.018
Residual	46	2.47		

Table C33

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of 'interest' scores (Q6): Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	1.09	1.58	.215
Interview	1	.01	.01	.918
2-way Interaction				
Theory x Interview	1	3.71	5.36	.025
Residual	46	.69		

Table C34

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of disagreement with pretest scores: Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	.00	.00	.995
Interview	1	1.11	1.27	.266
2-way Interaction				
Theory x Interview	1	.85	.97	.330
Residual	46	.87		

Table C35

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of prototypicality scores: Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	4.88	2.67	.109
Interview	1	12.00	6.56	.014
2-way Interaction				
Theory x Interview	1	2.46	1.34	.252
Residual	46	1.83		

Table C36

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of mean internal content scores for long-term unemployed: Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	3.93	5.21	.027
Interview	1	5.07	6.73	.013
2-way Interaction				
Theory x Interview	1	.95	1.26	.267
Residual	46	.75		

Table C37

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of mean external scores for the long-term unemployed: Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	.64	.80	.376
Interview	1	13.90	17.43	.000
2-way Interaction				
Theory x Interview	1	.28	.35	.558
Residual	46	.80		

Table C38

Theory Type (A/B) x Interview Type (consistent/inconsistent) ANOVA of mean internal/external content scores for stimulus person: Experiment 7

Sources of variation	df	MS	F	p
Main Effects				
Theory	1	.11	.10	.751
Interview	1	249.69	223.74	.000
2-way Interaction				
Theory x Interview	1	5.10	4.57	.038
Residual	46	1.12		