Suppressing Stereotypes of the Poor: Rebound

Effects can be Positive (as well as Negative)

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Abstract

Suppressing unwanted stereotypes ironically leads suppressors to think and behave in a more stereotypical manner than controls. Suppression studies typically test for rebound with target groups that perceivers may feel entitled to stereotype (e.g., skinheads) or that are associated with negative stereotypes (e.g., African Americans). In contrast, stereotypes of the aid-related poor are expected to contain *ambivalent* content: a mix of both positive and negative stereotypic information. Since this content may affect perceivers' cognitive processes of stereotype activation, application, suppression and rebound, it was expected that stereotype rebound effects (e.g., judgments and behaviours) for the aid-related poor would differ from those reported for previously tested target groups. Stereotype rebound effects for this target group might occur as: a) positive responses, such as approach behaviour or positive judgments, b) occur as negative responses, such as avoidance behaviour or negative judgments, or c) not be evidenced in suppressors' responses. Four experiments were designed to explore the effects of stereotype suppression, and to examine stereotype rebound effects in perceivers who suppressed (i.e., were asked not to think stereotypically) their stereotypes of the aid-related poor.

In the first experiment ($N = 29$), there was no evidence of stereotype suppression in suppressors' essays about a poor African youth. In the second experiment ($N = 24$) however, suppressors sat significantly closer than controls to the alleged seat of an African student (a *reverse* rebound effect). In the third experiment ($N = 35$), suppressors again showed evidence of approach behaviour when interacting with African poor individuals, and demonstrated avoidance behaviour when interacting with African wealthy individuals. Experiment 4 ($N = 70$) used implicit measures of stereotyping; participants were asked to name the ink colour of stereotypic and nonstereotypic trait words presented immediately following two category primes. Suppressors tended to be faster than controls to name the colour of positive trait words and slower than controls to name the colour of negative trait words that were stereotypic of the African poor target group. This difference in response times implies that, for suppressors only, the salient

stereotype features being primed were positive rather than negative; thus eliciting a *positive* rebound effect. Stereotype rebound effects may therefore not always be evidenced by higher levels of negative or prejudiced responding in suppressors, but can also appear as positive evaluations and approach behaviours. Findings from this research (i.e., stereotype rebound effects can be either positive or negative) have important implications for those viewers of aid advertisements who suppress unwanted stereotypes, especially as rebound effects for the aid-related poor are associated with unconscious behavioural and cognitive responses.

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Chapter One

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"A photograph provokes a tension in us - not only about the precise moment that the image depicts, but also about all the moments that led up to that instant and about all the moments that will follow. We see a news image of a starving child..."

<div align="right">(Moeller, 1999, p.39)</div>

Acute poverty may well be the most frustrating problem on earth. Despite concerted efforts by charitable groups, government bodies and individuals, poverty has continued to escalate relentlessly in some parts of the globe, and particularly in African countries. Over the last few decades the wide gulf that separates the world's affluent from the world's poor has continued to expand; an estimated 800 million people currently suffer from malnutrition while around four billion live in poverty (Sanchez, Cronick & Wiesenfield, 2003). Up to eight thousand children die in southern Africa every day; overall, Africa's poor are increasing in number, from less than 140 million in 1975 to over 360 million in 2000 (Artadi & Sala-i-Martin, 2004). The state of poverty can be construed as an insufficiency of well-being, quality of life, exchange, accumulation of capital and access to goods and services (United Nations World Development Report, 2000) but in some countries there is 'absolute' poverty, where extreme malnutrition and hardship are evident (Altimir, 1992). In Africa, for example, the poor continue to increase in number and millions still die, many of them children, because they lack access to sufficient food, clean water and health care (Ogbunwezeh, 2005). This suffering is especially tragic simply because it need not be this way; the world currently produces enough food for everyone. Poverty does not happen because there is a shortage

of resources, or because of inefficient economic systems. Neither is it likely to be the result of poor people who are "dishonest, dependent, lazy, uninterested in education and promiscuous" (Lott, 2002, p. 102). Instead, poverty can be seen as a product of human social relationships - because human social relationships determine how people distribute resources (Lemieux & Pratto, 2003).

Global Responsibility for World Poverty

The Millennium Development Goals (MDGs) set out a shared vision of development based on the United Nations Millennium Declaration, adopted by 189 nations in 2000. The 265 experts involved have published "the most comprehensive strategy ever put forward for combating global poverty, hunger and disease" (UN Millennium Project, 2005). Eight goals address world poverty reduction and long-term development, focusing specifically on areas such as the reduction of child mortality, the provision of education for all children and fighting the effects of HIV/AIDS, malaria and other diseases. A basic principle underlying MDGs is the understanding that "fighting poverty is a collective undertaking and that all countries have a stake in the results" (p. 36). Thus, the eighth MDG seeks to grow a "global partnership" between developing and developed countries that encourages a mutual commitment. An important part of official development assistance in the fight against poverty reduction comes from the individuals located within developed economies. At a personal level, individuals are now part of a global interactive community; leading philosophers (e.g. Rawls, Singer, Pogge) argue that politically and ethically, individuals are morally responsible to aid others who are in need.

Individual Responsibility

Indeed many people demonstrate a growing awareness of and a willingness to accept more responsibility for world poverty. Despite recent economic constraints, Pharoah and Breeze (2009) report that during 2007-8, donations from the British public were eight percent higher than the previous year. They argue that individuals who give to charity

"choose their resources to pursue what they believe is important" (Pharoah & Breeze, para. 4). Past campaigns, such as the Make Poverty History (2005), Global Call to Action Against Poverty, and Live8 have escalated awareness about MDGs and also stirred debate, calling upon world leaders to fundamentally change their approach to trade talks and review international funding. At an individual level, while aid advertisements are an increasingly important source of funds for relief agencies (Reis, 1998), they do not always elicit the donations or economic funds required or expected, as in the Kashmir crisis. For aid to be effective, people need to not only financially support aid agencies but they need to develop a greater awareness of the development that accompanies a commitment and support for that development assistance at both personal and national levels. Yet, for many viewers in developed countries, images of poor people in aid advertisements remain the sole face of world poverty.

Media Images and the Poor

Many charities such as Red Cross, Oxfam, Save the Children and UNICEF raise funds internationally though television advertisements; however, these advertisements frequently appeal to viewers' emotions by presenting images of the poor in a one-dimensional manner, accompanied by stories of famine, war and disaster. Advertisers often rely upon graphic, sometimes shocking images that tend to show poor people as helpless, passive and destitute, a portrayal that engenders sympathy (Brolley & Anderson, 1986) and guilt and pity (Feldman & Feldman, 1985). As a result, many viewers hold negative views about the developing world (Glasgow Media Group, 2000). Biased presentations of the poor are compounded by the implication that the people pictured are often desperately awaiting handouts from aid agencies and therefore are unable to help themselves (Opoku-Owusu, 2003). These images may give rise to distorted perceptions, particularly about the African continent, that not only devalue the people they represent (Glewwe & van der Gaag, 1992), but also lead perceivers, who lack adequate explanations and context, to involuntarily generate stereotypes of the poor. Inaccurate stereotypes of poor African people are perpetuated in viewers by three particular media practices: 'framing', a strategy that determines how perceivers are

likely to comprehend presented information; the frequent omission of context; and the consistent portrayal of the poor in a similarly negative manner (Opoku-Owusu, 2003). Media framing means that images and stories are presented in such a way as to draw viewers' attention to some specific features and to downplay other relevant aspects (Harris, 2004). By framing media images of poverty in other countries, the media are able to direct how perceivers attend to and comprehend information in certain ways (Entman, 1995). For example, information about the poor is rarely presented in a *thematic* frame where abstract, general trends such as poverty rate and social factors are included (Iyengar, 1990). Instead, *episodic*-frame news stories that describe poverty in terms of individual experiences are more prevalent. In an earlier study, Iyengar (1987) found that media images of poor people, such as the homeless or unemployed, who were engaged in specific instances of behaviour (episodic framing) tended to be held more causally responsible by viewers for what was happening to them. The way the media frames images of the poor on television and in aid advertisements has important implications for viewer responses. Specifically, the insidious use of episodic frames (e.g. "Maria is a sick African person who has no food or family") focuses viewer attention upon the individual and specific discrete events. Stories and pictures presented in terms of people's personal experiences with poverty elicit thoughts that may be processed automatically by viewers (e.g. Brewer, 1988) and are often accompanied by dispositional causal attributions (Iyengar, 1987).

Framing the issue or images means that the media often fail to present a thorough contextual account of the problem (Glewwe & van der Gaag, 1992). Bullock, Wyche, and Williams (2001) found that even when the media were sympathetic, they did not invest time in contextualising stories about poverty or illuminating the causes. Just as important as the explicit subject in the frame is the information that is missing: people cannot learn about others if contextual information is not included. Without this there is inadequate explanation, ample opportunity for misinterpretation of information, and the perceiver's attention is instead directed onto what the media might deem important and pertinent. Perceivers are also forced to 'fill in the gaps' and rely upon their stereotypes for understanding, thus attending more to information that reinforces their own

perceptions (Opoku-Owusu, 2003). Iyengar's (1990) work into the framing of poverty issues in the media raises a question about the long-term effectiveness of aid advertisements. If media images of the poor are consistently presented in terms of personal experiences, viewers are increasingly likely to ascribe aspects of poverty to individual factors and could tend to blame the 'victim'.

Images of people in poverty are consistently shown in news reports and as part of aid advertisements in association with a seemingly unending stream of disaster. As might be expected, The Glasgow Media Group found that television audiences in general have very little understanding of the events and issues occurring in developing-world countries. In fact, VSO (2002) found that 80% of the British public sees the developing world in terms of such problems as famine, drought, war and illness. Poor African people are regularly portrayed in a similar way, demonstrating certain roles and behaviours. A common depiction is the sick and starving child; a common perception is based on the 'helpless child, powerful giver' relationship. Because this is a simplistic presentation of a complex issue, frequently presented media images and associated relationships, rather than factual information, are likely to predominate in the thinking of viewers. Moreover, automatic cognitive processes, particularly the stereotyping and suppression that accompany repeated viewings of aid advertisements on television, are likely to be powerful determinants of subsequent behaviour (Bargh, 1989).

Cognitive Processes

Although there has been some research into psychological factors affecting charitable giving (Bendapudi & Bendapudi, 1996) and attitudes towards charitable giving (Burnkrant & Page, 1982), there is relatively little published research into the cognitive processes that ensue when viewers consistently see images of poverty in aid advertisements. In particular, automatic and unconscious cognitive processes in person perception may have significant unexpected and often unintended outcomes for perceivers (e.g., Banaji & Greenwald, 1995; Devine, 1989). Much of the psychological processing in person perception occurs outside perceiver awareness and without

intention (Bargh, 1994; Newman & Uleman, 1989). In fact, Bargh (1999) argues that most situations in everyday life are not controlled by conscious intentions and deliberate choices but by mental processes cued by features of the environment.

Classic work from Allport (1954/1979) supports this view: Allport argued that the normal and ordinary perceptive process of categorisation lies at the heart of cognitive processes such as social stereotyping and prejudice. Existing mental categories and stereotypes in the perceiver's mind are influential in implicitly shaping perception and judgments of others (Macrae, Stangor, & Milne, 1994; Sedikides & Skowronski, 1990). Thus perceiver judgments are biased in that people rely on intuitions and beliefs about the actor's social group rather than upon observed behaviour or deliberative reasoning (De Neys, Vartanian, & Goel, 2008). Research has identified a host of mental processes that might account for such bias, including recency, frequency, awareness and emotional evaluation (e.g., Higgins, Bargh & Lombardi, 1985; Higgins, 1989).

Stereotyping Others

Stereotypical thinking is a pervasive and fundamental cognitive process that enables people to simplify and quickly gain an understanding of others in a complex social world. Arising from initial perception processes of categorisation, stereotypes contain personal beliefs or attributes that allow perceivers to distinguish between categories (Tajfel, 1969) and achieve a more comprehensive view of the human world (Hunyady, 2004). As a consequence of categorisation, stereotypes are easily evoked by the presence of a category member; in particular, fundamental categories such as race, gender and age appear to be attended to automatically (Brewer, 1988; Fiske & Neuberg, 1990). Once stereotypes are activated they determine how people form impressions of and tend to behave towards others (Banaji & Greenwald, 1995; Chartrand & Bargh, 1996). For example, perceivers pre-consciously encode relevant trait concepts (Winter & Uleman, 1984; Uleman, Hon, Roman, & Moskowitz, 1996), make dispositional attributions about behaviour (Bodenhausen & Wyer, 1985) and automatically activate

stereotypes upon perception of a group member (Bargh, 1994; Brewer, 1988; Devine, 1989).

An important consequence of automatic processing in person perception is that perceivers often remain unaware of underlying biases that inform their judgments. Implicit stereotypes are regularly used in judgment by perceivers who typically remain unaware of the influence of stored stereotypical information and its origins (Nisbett & Wilson, 1977). Because they are unconscious, such stereotypes can be influential and powerful in social decision making (Banaji & Bhaskar, 2000). Consequently, implicit stereotypes, unless corrected, will threaten the intentions of even the egalitarian perceiver, and set the stage for prejudice-related responses.

Stereotype Suppression

Devine's (1989) seminal study provided a theoretical analysis of how even those who are committed to egalitarian ideals and fair treatment for all are still vulnerable to the unintentional activation of stereotypical thoughts. Devine approached this internal conflict that individuals face by examining the roles of automatic and controlled processing. She argued that due to legacies of socialization experiences most individuals have knowledge of common stereotypes and that these are easily activated in viewers without intent or awareness (see also Fiske, 1998; Macrae & Bodenhausen, 2000). One important finding of Devine's study was that even when people adopt caring and egalitarian beliefs and values, this commitment might not eliminate automatic deep-seated biases against stereotyped groups. Fiske (2004) reports that as many as 80% of the populations of Western democracies who have benign intentions about intergroup relations, still display evidence of bias. Because biases are subtle they are not easily noticed by viewers and may even come as a surprise to many (Dovidio, Kawakami & Gaertner, 2002; Gaertner & Dovidio, 1986). These studies suggest that when individuals become aware of biased thinking or behaviour and need to exert control over their thinking, resolving to suppress unwanted thoughts is an obvious place to start.

Individuals often find themselves in situations where they must control their thoughts and their behaviour, a task that is not as straightforward as might be expected (Baumeister, Heatherton, & Tice, 1994). One way to keep control of behaviour is to control one's thoughts and, rather than direct effort onto other environmental cues as a distraction, individuals may want to stop thinking altogether about certain people, things or events. When Wegner, Schneider, Carter, and White (1987) asked participants to verbalise their thoughts for five minutes but not to think about a white bear, they found an unexpected outcome to an ordinary problem. In this study, suppressors, compared to nonsuppressors, were unable to help themselves thinking about a white bear, suggesting that the suppression process was a difficult and surprisingly ineffectual strategy that could result in a paradoxical outcome. Specifically, individuals' attempts at mental control appeared to precipitate unwanted mental states that were there in the beginning, causing perceivers to be haunted by unwanted thoughts. Wegner's findings indicate that the process of first avoiding and then attending to a thought causes it to exert a greater influence over attention than it otherwise might have done; thus the process of suppression can seriously backfire and accelerate the production of unwanted cognitions.

Stereotype Rebound

Since Wegner's classic research, thought suppression and rebound effects have been documented in a wide variety of experiments that have replicated or built upon Wegner et al.'s (1987) original 'white bear' study. In the clinical domain, rebound effects following suppression have been established in areas of depression (Wenzlaff, Wegner, & Roper, 1988), anxiety (Spinhoven & Van der Does, 1999), and addictive behaviours (Salkovskis & Reynolds, 1994). In particular, suppression theory may explain the intrusive and repetitive nature of unwanted thoughts in obsessive-compulsive disorder (Janeck & Calamari, 1999) and from traumatic incidents (Rassin, Merckelbach, & Muris, 1997). Other studies have documented rebound effects in terms of intrusive neutral thoughts (Lavy & Van den Hout, 1990; Clark, Ball & Pape, 1991); personally relevant and emotional thoughts (Kelly & Kahn, 1994; Harvey & Bryant, 1998);

physiological reactivity (Wegner, Shortt, Blake & Page, 1990); and even over extended periods of time (Merckelbach, Muris, van den Hout, & de Jong, 1991). Consistent findings for rebound effects have led researchers in social cognition to question whether individuals would be able to successfully suppress stereotypic thoughts about others and avoid a paradoxical rebound effect.

In one of the first studies to examine ironic effects following stereotype suppression, Wegner, Erber, and Bowman (1993, cited in Wegner, 1994) asked participants to complete a series of sentence stems, some of which prompted judgments relevant to sexism. Some of the participants were asked to try not to be sexist in their responses and a number of these were placed under time pressure by having to respond immediately. Results showed a clear ironic effect, in that individuals who tried not to be sexist under time pressure wrote significantly more 'sexist' sentences regardless of their gender or personal attitudes towards women. The introduction of time pressure into this experiment suggests that participants may have automatically activated stereotypes of women that, because they had inadequate cognitive resources, they were unable to successfully suppress or to control. This finding demonstrates the distinction that exists between stereotype activation and application proposed by Devine (1989). She argues that while all people automatically activate stereotypes of major groups in society, only some individuals are able to control and monitor their application. Thus, there are individual differences in perceivers in terms of their motivation and ability to control stereotypes that will affect the likelihood of rebound effects following suppression.

An innovative study conducted by Macrae, Bodenhausen, Milne, and Jetten (1994) examined the cognitive and behavioural consequences of instructions to "suppress a stereotype". Participants were first asked to write about a 'day-in-the-life' of a skinhead; half the participants (suppressors) were asked to refrain from using stereotypes and demonstrated lower levels of stereotypical thinking in their first essay than controls. In their second essays, suppressors were more stereotypical in their writing than controls. A second experiment also used the essay-writing task but, when asked to later choose a seat, suppressors sat further away from the belongings of a skinhead than did the control

group. Macrae and colleagues point out that participants in the suppress group experienced a rebound effect, evidenced in the enhanced accessibility of their stereotypes. Findings such as these suggest that controlling or suppressing one's stereotypes does not work because suppressed stereotypes subsequently become hyperaccessible resulting in significant interpersonal consequences.

Following Macrae et al.'s landmark study, other researchers explored the effects of stereotype suppression and the likelihood of rebound in the social domain. Macrae, Bodenhausen, Milne, and Wheeler (1996) conducted a series of studies to show that stereotype suppression is an 'effortful', resource-demanding process that reduces attentional resources for processing target-related information and enhances recall for unwanted stereotypic material. Monteith, Spicer, and Tooman (1998) followed up the skinhead experiment by investigating boundary conditions to stereotype rebound effects in terms of social groups that perceivers might find personally and socially unacceptable to stereotype. In their study participants were asked to interact with a target group that was particularly unacceptable to stereotype, that is, gay men. Wyer, Sherman, and Stroessner (1998) examined spontaneous suppression and rebound effects by making social norms rather than personal standards salient for perceivers, and Macrae, Bodenhausen, and Milne (1998) explored the idea that self-consciousness and a heightened self-focus leads to spontaneous stereotype suppression.

Individual differences in perceivers can affect the success of stereotype suppression. Kawakami, Dovidio, Moll, Hermsen, and Russin (2000) investigated how perceivers' constant practice might affect suppression outcomes, while Wyer, Sherman, and Stroessner (2000) showed that perceivers need both motivation and sufficient cognitive capacity in order to control their stereotypes. Gordijn, Hindriks, Koomen, Dijksterhuis, and van Knippenberg (2004) showed that stereotype suppression leads to perceivers initiating self-control, experiencing depleted regulatory resources and hyperaccessibility of suppressed thoughts and, finally, increased use of stereotypes in general (although only for participants with a low internal suppression motivation).

Together, the studies described above have shown that there are a number of cognitive prerequisites for stereotype rebound effects to occur: stereotype activation, motivations to avoid stereotypic bias and a shortfall in cognitive ability. Viewers of aid advertisements who meet these conditions may therefore go on to experience stereotype rebound effects (i.e., they will end up stereotyping the poor even more).

Studies on stereotype suppression and rebound have been conducted with a range of target groups, including both those that might be socially acceptable to stereotype, such as skinheads, construction workers, male yuppies, female models and members of parliament, and others that might be personally and less acceptable to stereotype, such as gay men, African-Americans and Asian-Americans. Much of the research has been conducted with the skinhead and African-American target groups, stereotyped groups that perceivers may not feel motivated to avoid stereotyping or may not be prepared to express. It seems likely, however, that perceivers' stereotypes of various target groups contain different content. According to Fiske, Cuddy, Glick, and Xu (2002) social stereotypes vary in terms of two dimensions: warmth and competence. These two dimensions of stereotype content allow perceivers to distinguish out-groups from their own in terms of the out-group capabilities (i.e., competence) and intentions (i.e., warmth). Stereotype content therefore may have major impact upon suppression attempts and rebound effects; specifically dimensions of warmth and competence have been shown to have behavioural and emotional concomitants (Cuddy, Fiske, & Glick, 2007).

Stereotype Rebound and Aid Advertisements

This thesis extends research in stereotype suppression and rebound by investigating the likelihood of rebound effects for a different target group: the developing-world poor as they are typically framed in aid advertisements. Although pervasive poverty throughout the world is an affront to many inhabitants of 'rich' countries, and many individuals are prepared to accept responsibility for alleviating this situation, there is little research examining cognitive processes that come into play when people see framed images of

the impoverished in aid advertisements and are urged to contribute. In line with important and significant findings in social psychology that emphasise the role of unconscious and automatic processes in cognition, the following hypotheses were explored. It is predicted that because most of the population lack strong goals in support of development or aid appeals, viewers will automatically activate stereotypes of those they see in the media. Unwanted stereotypes are likely to be suppressed by those viewers who will find it hard to reconcile a commitment to being fair and just towards others who are less fortunate than themselves with a complex mix of positive and negative beliefs and attributions that constitute their stereotype. According to suppression theories, unwanted stereotypes that are suppressed may later rebound so that stereotypical thinking unexpectedly becomes more, rather than less, prevalent. Whether perceivers are able to successfully control their unwanted stereotypes has important implications, both for perceivers and aid advertisers; research shows that heightened stereotypical thinking is associated with increasingly stereotypic judgments and behaviours even when perceivers have intentions to avoid these.

Chapter Two

Stereotyping, Stereotype Suppression and Rebound

This chapter reviews the current literature surrounding automatic and controlled cognitive processes that contribute to stereotyping in the social domain. In particular, cognitive processes of stereotype activation and application and their roles in stereotype suppression and rebound are considered. I also examine the cognitive pre-requisites of stereotype rebound and discuss inconsistent findings of stereotype rebound in empirical studies. Finally, I consider the ambivalent content that characterises perceivers' stereotypes of the poor and the implications of this mixed content stereotype for stereotype suppression and rebound.

What happens in people's minds when they see media pictures of people who are poor, homeless and hungry or children struggling in poverty-stricken environments? This thesis explores the cognitive processes of stereotyping, stereotype suppression and rebound that underlie perceivers' responses to those portrayed in aid advertisements. It seems likely that viewers of aid advertisements will try to put such images out of their minds; not only will they want to avoid stereotypic thinking that violates their intentions to be positive and helpful, but they may want to avoid feeling guilty or responsible. Charitable advertisements that appear regularly on television screens or in daily newspapers evoke schemata, such as stereotypes in viewers (Harris, 2004); unfortunately aid advertisements often portray poor people from the developing world in terms of famine, war and poverty (Glasgow Media Group, 2000; VSO, 2002), problems to be addressed by famine relief and aid programs (Davies, 2006). Triggered by cues in the advertisement and by the images themselves, perceivers' social stereotypes of the

poor are likely to easily spring to mind, along with a host of associated beliefs and expectations. When their automatically activated stereotypes finally reach awareness, viewers of aid advertisements may prefer to suppress them, resolving not to think of them any longer. In order to control their thinking, individuals often make deliberate attempts to remove thoughts from consciousness, a process that Wegner (1994) describes as 'thought suppression'.

Research has shown that thought suppression is a process that not only has cognitive costs; it also leads to unexpected paradoxical consequences. Wegner's early experiments showed that attempts to suppress unwanted thoughts could backfire, ironically leading to an increased incidence of the original unwanted thought. Although thought suppression may be successful to begin with, previously targeted thoughts enter awareness with increased frequency when suppression efforts are relaxed or perceivers' attention is diverted. Wegner (1994, 1997) attributed heightened accessibility of unwanted thoughts to the interaction of two cognitive mechanisms: a controlled operating process that searches for distracters, and an automatic monitoring system that ironically searches for evidence that the unwanted thought has reappeared. Other researchers have suggested that the ironic monitor acts to repetitively prime the unwanted information (Macrae, Bodenhausen, Milne, & Jetten, 1994; Newman, Duff, Hedberg, & Blitstein, 1996). Wegner termed this ironic outcome the *rebound effect*.

Just as unwanted thoughts have been found to be hyperaccessible following periods of suppression, suppressed stereotypes display enhanced accessibility. Perceivers are more likely to use accessible stereotypes when responding to others and interpreting their behaviour, so stereotype suppression is often followed by increased levels of stereotypic thinking, judgments and behaviours (Macrae et al., 1994; Gordijn, Hindriks, Koomen, Dijksterhuis, & van Knippenberg, 2004). Thus suppression attempts may lead to stereotype rebound, a paradoxical outcome that ensures that those who wish to control and avoid using stereotypes in their interactions with others ironically find themselves thinking and behaving more stereotypically than if they had not suppressed stereotypic information at all. Neither aid organisations nor perceivers themselves are likely to

regard increased levels of stereotypical thinking, directed at poor people portrayed in aid advertisements, as a desirable outcome.

In person perception, social stereotypes arise automatically from cognitive processes of categorisation. Aid advertisements may unintentionally highlight group differences, either real or imagined, that facilitate stereotypic thinking that many perceivers are uncomfortable about expressing. Individuals in contemporary society may suppress unwanted stereotypes of target groups in order to maintain personal value standards such as being egalitarian and fair, to meet social normative standards, or to avoid experiencing feelings such as guilt, pity, and helplessness. However, perceivers who engage in stereotype suppression, a controlled and effortful process, are only likely to be successful when they have adequate cognitive resources (i.e., the ability to maintain a successful thought distraction process). In addition, perceivers must also be motivated to suppress their stereotypes (Wyer, Sherman & Stroessner, 2000), aware that unwanted stereotypes prevail in their thinking (Devine, 1989) and have replacement thoughts available (Wegner, Schneider, Carter, & White, 1987). Therefore, unless viewers of images used in aid advertisements are highly motivated to avoid stereotyping others, have sufficient cognitive resources to do so and are able to sustain the practice of suppression for some time, their suppressed stereotypes of the poor may consistently feature in their thoughts and haunt attempts to ignore them.

Stereotype rebound effects are evidenced when, following attempts to suppress their stereotypes, perceivers experience an increase of 'target' thoughts (Gordijn et al., 2004), make more stereotypical judgments of target group members than controls (Wyer, Sherman, & Stroessner, 2000; Kulik, Perry & Bourhis, 2000), and demonstrate higher levels of stereotypical thinking and distancing behaviour than controls (Macrae et al., 1994). However, researchers do not consistently find evidence of rebound after stereotype suppression; for example, participants who suppress stereotypes of target groups that are regarded as socially unacceptable to stereotype (Wyer et al., 2000; Hodson & Dovidio, 2001). Rebound effects are often not found in situations where there are strong social sanctions against stereotyping; such situations lead participants to

become practiced at controlling the activation and/or the expression of their stereotypes. Accordingly, rebound effects may not be found because participants have successfully used either automatic (i.e., efficient and practiced) or controlled processing suppression strategies (i.e., they have adequate cognitive ability).

Another explanation for inconsistent findings for rebound in research is that stereotype rebound effects may reflect real differences in stereotype content existing between target groups that are not subject to strong personal or social norms (e.g., skinheads, construction workers) and 'target groups' such as the developing-world poor that invoke very different feelings and thoughts in perceivers. As stereotype rebound is defined as heightened stereotype accessibility (Macrae et al., 1994), the content of stereotypes may be a crucial determinant of suppressors' judgments and behaviour. Although social stereotypes have traditionally been viewed as containing predominantly negative attributions and beliefs about others (e.g., Katz & Braly, 1933; Dovidio & Gaertner, 2000), Alexander, Brewer, and Hermann (1999) suggest that representations of outgroups are not indiscriminately negative, but rather are differentiated depending on intergroup qualities of status and power.

According to the stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002), systematic qualitative differences in stereotypes are predicted by two intergroup factors: status and competition. These intergroup qualities are predicted to underlie two dimensions of stereotype content: competition between groups determines judgments of perceived *warmth,* while status differences between groups determines judgments of perceived *competence*. Specifically, stereotypic judgments of warmth arise when perceivers seek to determine a target person's intentions as either positive or negative. Similarly, stereotypic judgments of competence arise when perceivers seek to determine a target person's abilities to carry out these intentions (Fiske et al., 2002).

Asymmetric combinations of warmth-competence judgments (i.e., high/low competence/warmth) may explain the ambivalent content that exists in many social stereotypes for groups such as women, the poor and the rich. Individuals' stereotypes of

the developing-world poor may contain ambivalent (i.e., a conflicting mix of negative and positive) material and thus produce different stereotype rebound effects from those associated with other, more negatively viewed target groups such as skinheads. Images of the poor may be primarily associated with high warmth judgments, but on the other hand, research has shown the perceivers tend to 'blame' the poor (Lerner & Goldberg, 1999), so low warmth judgments may be equally likely.

When viewers are faced with aid advertisements that are distressing, or require them to respond or donate, they may prefer to not to think about, or to suppress, automatically activated stereotypes of the poor. Individuals who are distracted, unfocused, busy, or simply not motivated to monitor suppression attempts for sustained periods, are particularly vulnerable to rebound effects. Because stereotype suppression is often ineffective and leads to an increased preoccupation with the unwanted stereotype, suppressors are likely to find themselves stereotyping the target group more than if they had not suppressed at all. However, given the mixed findings for stereotype rebound reported in the literature, it is prudent to consider the likelihood that rebound effects are not inevitable (Rutledge, Hancock, & Rutledge, 1996). Rebound effects have been shown in the literature to be moderated by variables such as self-salience (Macrae, Bodenhausen, Milne, & Wheeler, 1996), motivation (Wyer, 2006; Plant & Devine, 1998), and practice effects (Moskowitz, Gollwitzer, Wasel, & Schaal, 1999). Accordingly, rebound effects following stereotype suppression in the context of aid advertisements, may occur only for some perceivers, and could also be moderated by qualitative aspects of stereotype content (e.g., warmth and competence).

This research focuses on the stereotype rebound effects that viewers of aid advertisements who suppress stereotypes of the developing-world poor might experience. Poor people, as portrayed in international aid advertisements, are a target group whose corresponding stereotypes are likely to contain ambivalent (i.e., mixed valence) stereotypic material. Two broad hypotheses were tested in this research programme. First, it was predicted that viewers of aid advertisements would automatically activate stereotypes of the poor, and for those who suppressed these

unwanted stereotypes, rebound effects, in terms of increased stereotypical thinking and behaviour, were expected to follow. Second, the *content* in viewers' stereotypes of the aid-related poor is expected to differ systematically from the content of perceivers' stereotypes of other social groups, such as skinheads; therefore stereotype suppression may elicit different rebound effects, reflecting the qualitative differences in stereotype content.

The following review of research traces how cognitive categories in perception develop into automatically activated social stereotypes that inform and assist perceivers in the processing of social information. I examine research that reports thought suppression processes and stereotype rebound effects in relation to various target groups, and I discuss moderators of stereotype rebound, including cognitive resources, motivation and practice effects. Stereotype rebound in viewers of aid advertisements is considered in the light of systematic differences that exist in stereotype content; perceivers' stereotypes of the poor are expected to contain ambivalent content that, according to the stereotype content model, comprises a mix of warmth and competence dimensions. Stereotypes of the poor, as portrayed in aid advertisements, have not featured to date in published research that examines stereotype suppression and rebound; it is expected that rebound effects in suppressors of stereotypes of the poor may be different from those reported for other target groups.

Categories are Basic in Person Perception

Person perception processes are based upon categorisation. Categories are essential for the perceiver to optimally process information in a crowded, ever changing social environment (Bruner, 1957; Smith & Medin, 1981). Existing categories also enable the perceiver to rapidly access a wealth of stored information in memory upon encountering such social concepts as 'third-world country', 'famine', and 'starving children'. Social cognition researchers argue that categories are a necessary product of individuals' limited cognitive resources, enhancing cognitive efficiency and facilitating an understanding of the environment (Hamilton & Trolier, 1986). Other researchers

contend that categorisation is a process that lies at the heart of group formation and identification, clarifying similarities and differences between people and thus generating inferences and expectancies (Oakes, Haslam & Turner, 1994; Brewer & Gaertner, 2001). Both schools of thought see categorisation processes as ubiquitous and pervasive in social information processing; indeed they form the basis of contemporary models of impression formation (Fiske & Neuberg, 1990; Brewer, 1988). Categorisation, therefore, can be regarded as a normal and inevitable process in the social world, underlying social-cognitive (Hamilton & Trolier, 1986) and social identity (Tajfel & Turner, 1979) theories of stereotyping.

Categories Become Social Stereotypes

When perceivers label categories and draw inferences about exemplars of categories, they begin to develop theories and predictions about the attributes and behaviour of others. Categories function in the perceiver's mind as schemas; a mental framework that aids the understanding of what individuals see and hear (Schneider, 2004). Social stereotypes are schemas that "contain a mix of knowledge about a group along with exemplars of group members" (Kunda, 1999, p. 315). In the social domain, features in the environment or of the stimulus, particularly if they are memorable or vivid, can cue preconscious mental processes that ultimately determine how people form impressions of and behave towards others (Banaji & Greenwald, 1995; Chartrand & Bargh, 1996). For example, perceivers preconsciously encode relevant trait concepts (Winter & Uleman, 1984; Uleman, Newman, & Moskowitz, 1996), make dispositional attributions about behaviour (Bodenhausen & Wyer, 1985), and automatically activate stereotypes upon perception of a group member (Bargh, 1994; Brewer, 1988; Devine, 1989). In particular, fundamental categories such as race, gender, and age appear to be attended to automatically (Brewer, 1988; Fiske & Neuberg, 1990) subsequently influencing perceivers' judgments and behaviour (Hamilton & Sherman, 1994; Stangor & Lange, 1994). Numerous studies have shown that participants exposed to social category primes activate stereotypes that subsequently affect attitudes and behaviours without their awareness (Bargh, Chen, & Burrows, 1996; Fazio, Jackson, Dunton, & Williams, 1995).

Once stereotypes are activated in the perceiver's mind, there are a number of reasons why these might be sustained in the thinking of viewers. By integrating categories and concepts, stereotypes simplify a complex social world for the perceiver and facilitate a more comprehensive view of humanity (Hunyady, 2004). Social stereotypes that reflect group differences do just this, by providing a self-reference point that clarifies the individual's place in society (Oakes, Haslam, & Turner, 1994). Similarly, those who inhabit wealthy countries and continually view images of poverty from developing and less wealthy nations may rely on their stereotypes of poor people to provide increased self-esteem (Tajfel & Turner, 1979; Spencer, Fein, Wolfe, Fong & Dunn, 1998) and enhanced security (Greenberg, Solomon, & Pyszczynski, 1997). Extending this approach, more recent research (Jost, Burgess, & Mosso, 2001) has examined the way in which social stereotypes hamper social change by reinforcing an economic status quo. Specifically, Jost, Pelham, and Carvallo (2002) maintain that stereotypes, even those that are seemingly benevolent, such as the belief that someone might be 'poor but honest', sustain a perception that inequality in society can be fair and justified. In the following section, I explore the ways in which viewers of aid advertisements construct, process and control social information in response to aid-related images of the poor from developing countries.

Stereotype Construction in Aid Advertising

Images of the poor routinely appear in a wide variety of media, reaching many through televised advertisements. Advertisements appeal for help, soliciting commitments and contributions from individuals, as well as endeavouring to educate the public about a very different social world. Charitable aid advertisements, portraying the poor as consistently needy and deserving, are frequent, and are often a major source of information for viewers about life in developing countries (Glasgow Media Group, 2000). Images in advertisements are likely to elicit stereotypical thinking in viewers; such images generate emotional reactions that evoke concern, are often negative (Burt & Strongman, 2005), and also encourage viewers to be constructive in their thinking (Radley & Kennedy, 1997). In particular, between 1999 and 2000, international non-

governmental organisations adopted a 'deliberate positivist' strategy whereby aid advertisements often featured an individual who was named; by personalising the appeal, aid organisations expected to achiever greater identification and impact (Dogra, 2007). However, perceivers personalising (e.g., individualising) a target group member may need to have sufficient cognitive ability and the motivation to develop sub-categories relating to features of individuals portrayed. It seems more likely that perceivers will respond to a named person, who symbolizes the developing world, by taking the 'easy way out' and thinking stereotypically (Fiske, 1993); and thus regarding an individual as representative of an entire category, such as poor African people.

Viewers who automatically activate existing social stereotypes of people in the developing world use these cognitive categories to augment and explain information presented in the advertisements. The automatic operation of social stereotypes has been widely researched in social cognition (Macrae, Bodenhausen, Milne, Thorn, & Castelli, 1997; Bargh, 1999; Bargh & Ferguson, 2000) as the result of environmental triggers (Fiske & Neuberg, 1990) and everyday categorical thinking (Bodenhausen & Wyer, 1985). However, Fiske (1989) argues that "motivated perceivers" should be able to overcome the influence of automatically activated stereotypes. How perceivers might exert control over stereotypical thinking is better understood in the context of Devine's (1989) proposed dissociation in the stereotyping process, between stereotype activation and application.

Stereotype Dissociation

Stereotype Dissociation: Stereotype Activation

Stereotype research frequently distinguishes between stereotype activation and application (Brewer, 1988; Devine, 1989; Bargh, 1996). While the former is thought to result unconsciously due to exposure to environmental triggers, the latter is expected to be under the control of the perceiver. Automatic, preconscious processing, in contrast to controlled cognitive processing, is relatively effortless, requiring a minimum of cognitive resources and occurring without intention or awareness on the part of the

perceiver (Bargh & Chartrand, 1999). However, a number of researchers argue that stereotype activation is conditionally automatic, moderated by factors such as cognitive busyness (Gilbert & Hixon, 1991), time (Kunda, Davies, Adams, & Spencer, 2002), goals (Moskowitz, Gollwitzer, Wasel, & Schaal, 1999) and levels of prejudice (Lepore & Brown, 1997). The automatic activation of stereotypes is demonstrated with semantic priming techniques where triggering stimuli remain outside levels of awareness or are apparently irrelevant to tasks (Brewer, 1988; Fiske & Neuberg, 1990) and stereotypes (Bargh, 1999; Perdue & Gurtman, 1990).

In a classic study, Devine (1989) presented primes in participants' parafoveal field (i.e., in the fringe or periphery of the attended region) to show that stereotype activation occurs in observers without attention or capacity when relevant cues, such as race, are presented. In Devine's Experiment 2, primes were social category labels for African-Americans and priming words were attributes of African-Americans, such as 'poor', 'lazy', and 'athletic'. The attribute 'hostile' was not included in the priming stimuli, so that priming effects would demonstrate stereotype activation rather than a direct priming of 'hostility'. Priming manipulations (i.e., presentation of high or low levels of stereotypic words) were hypothesized to increase the accessibility of the African-American stereotype, and stereotype activation was assessed in a subsequent judgement task where participants made evaluative judgments about a target who acted in an ambiguously hostile manner. Devine found that, as predicted, participants who were in the high-prime condition judged the target person in the second task as more 'hostile' than those who were in the low-prime condition, indicating that stereotypes were automatically activated in all participants.

Banaji and Hardin (1996, Experiment 1) also found that participants activated gender stereotypes automatically despite their explicit beliefs. They presented people with a sequence of two words and asked them to judge whether or not the second word was a related pronoun. The first word (i.e., the prime) was a word that participants were expected to associate with a gender-specific task, such as 'doctor' or 'father' and 'mother' or 'nurse'. The second word was a pronoun that participants were asked to

judge as either female or male, such as 'he' or 'him' and 'she' or 'her'. The researchers argued that because participants made faster judgements for consistent prime-target pairings (e.g., 'doctor-he') than for inconsistent prime-target pairings (e.g., 'doctor-she') gender stereotypes were automatically activated in participants. Both of the studies described above used target groups that are typically categorised in terms of race and gender, just as images of the developing-world poor might be.

A strong proponent of automatic stereotype activation, Bargh (1994, 1999; Bargh & Ferguson, 2000) insists that automatic activation of social stereotypes is a "cognitive monster", not as easily controlled, as some researchers believe, by factors such as "good intentions" and "effortful thought" (Bargh, 1999, p. 362). Bargh argues that when people are the target (e.g., Macrae, Bodenhausen, Milne, Thorn & Castelli, 1997) and when stereotypes are used meaningfully to enhance understanding (e.g., Uleman & Moskowitz, 1994), stereotypes can become activated automatically. In Macrae et al.'s research, participants were asked to respond to either female faces or household objects, in one of three ways. One group was asked to merely detect the presence of a white dot on the screen, another was asked to press a key when a photograph appeared and the third was asked to make a decision about whether the photograph was an animate or inanimate object. Each trial was followed by a word string that the participants were required to indicate as either a word or non-word; some words were stereotypic and others nonstereotypic of women. Only participants who had processed photographs semantically (i.e., made a decision) showed faster response times for stereotypic words following the presentation of a photograph of a woman. Participants who identified white dots or simply the presence of a stimulus did not show evidence of stereotype activation. This research suggests that individuals may only activate stereotypes of others when relevant judgments are being made.

Some researchers have reported varying levels of activation in social stereotypes between participants. Specifically, in experiments reported by Lepore and Brown (1997) and Locke, MacLeod, and Walker (1994) individual differences in participants' prejudice level were related to differences in stereotype activation. Lepore and Brown

primed British participants, who were high and low on measures of prejudice towards AfroCarribean people with either category labels (e.g., AfroCarribean) or category labels and elements of the AfroCarribean stereotype (unemployed, rude, lazy). Following the priming phase participants were asked to rate an AfroCarribean person on a number of scales that measured the degree to which the stereotype was being used to form an impression of the target. They found that priming with a category label (e.g., AfroCarribean) induced stereotype activation in only highly prejudiced participants. In contrast, when primed with elements of the stereotype as well, both high- and low-prejudice individuals showed evidence of stereotype activation.

Lepore and Brown argue that although both high- and low-prejudice people activate relevant stereotypes they are likely to maintain different beliefs about the target group (see also Augoustinos, Ahrens, & Innes, 1994; Devine, 1989; Devine & Elliott, 1995). Specifically, high-prejudice people may endorse more negative, and low-prejudice people the more positive, aspects of the stereotype. Similar results were found by Locke et al., who examined Australians' stereotypes of Australian Aborigines and reported that while high-prejudice participants automatically activated only stereotype-related information, low-prejudice participants activated a range of information, both related and unrelated and both positive and negative. Results from the two experiments described above suggest that although stereotype activation is often elicited in perceivers in response to environmental cues, stereotypes may be applied differentially depending on perceivers' current processing goals and their general attitudes to the target. Therefore, for some perceivers, stereotype activation is likely to be followed by some form of stereotype control strategy such as stereotype suppression.

Viewers of aid advertisements may also have stereotypic goals to maintain their current impressions of the developing-world poor (Kunda & Sinclair, 1999), or to boost their self-worth (Spencer, Fein, Wolfe, Fong, & Dunn, 1998). Because individuals are able to enhance their self-esteem by discriminating in favour of ingroups and against outgroups (Farnham, Greenwald, & Banaji, 1999; Lemyre & Smith, 1985) it is possible that some viewers may derogate lower status groups such as the developing-world poor.

Perceivers' group affiliations, especially salient when they view images of poverty, are likely to trigger automatic stereotypes that arise from persistent ingroup biases (Lepore & Brown, 1999). Some viewers who face constant aid appeals for funds may have goals to justify a negative response, and activating negative stereotypes of the poor may fulfill this function. Others may simply automatically activate stereotypes of the poor due to environmental cues in the advertisement such as an individual's race, clothing, or the context (Brewer, 1988; Fiske & Neuberg, 1990).

In sum, automatic stereotype activation occurs when perceivers repeatedly and consistently pair together environmental stimuli and cognitive representations. Repeated presentations, such as aid advertisements, lead those from an affluent culture to establish strong links between categories such as 'the poor' and stereotypic beliefs associated with that mental category, such as 'helpless' 'hungry' and 'needy'. Mental links become stronger with frequent use and are learned so well that perceivers may begin to rely on stereotypes unthinkingly (Fazio, 2001). Moreover, viewers' stereotypic expectancies lead them to focus on and better remember stereotypic behaviour (Macrae & Bodenhausen, 2000). Thus, through constant practice, repetition and habit, people's stereotypes of the poor can become automatically activated whenever perceivers see media images of poverty. The repetitive nature of advertisements and their consistent portrayal of people in dire and impoverished situations lay the groundwork for the development of implicit stereotypes in viewers.

Implicit Social Stereotyping

Based on work in implicit and explicit memory (Jacoby & Dallas, 1981; Jacoby & Witherspoon, 1982), implicit social cognition encompasses unconscious modes of cognition such as implicit attitudes, self-esteem and stereotypes and their involvement in social judgement (Greenwald & Banaji, 1995). Implicit cognition is distinguished from explicit modes of cognition in that traces of past experience influence perceivers' later performance, even though these experiences are neither remembered nor introspectively identified (Banaji, Hardin, & Rothman, 1993). Implicit stereotyping therefore occurs

when people unconsciously use knowledge based on "an existing relationship between an attribute and a social category" (Banaji & Greenwald, 1994, p 69). Implicit stereotypes are the normal outcome of perceptual categorisation processes, but, because they are unconscious, they are especially influential and powerful in social decision making (Banaji & Bhaskar, 2000). Implicit stereotypes are regularly used in judgment by perceivers who typically remain unaware of the influence of stored stereotypical information and its origins (Nisbett & Wilson, 1977). In social behaviour, implicit stereotyping has been demonstrated in relation to gender (e.g., Paulhus, Martin, & Murphy, 1992), race (e.g., Fazio, Jackson, Dunton, & Williams, 1995; Greenwald, McGhee, & Schwartz, 1998) and age (e.g., Rudman, Greenwald, Mellott, & Schwartz, 1999).

According to Banaji and Bhaskar (2000), triggers of automatic behaviour often remain outside conscious awareness and control, ensuring that perceivers, even those with the best intentions, are unable to override unconscious processes. These authors argue that all humans are "implicated to varying degrees in the operation of implicit stereotypes and prejudice" (p. 143). Perceivers' stereotypes of the poor, for example, are shaped unconsciously by media presentations that present the poor as typically helpless and deserving, requiring intervention and help. Presentations are consistent across a variety of media with similar images and stories being used, and related locations of families, schools, towns and cities viewing the same material. Perceivers' implicit stereotypes are likely to be strengthened by continuing exposure to negative images of the poor in the media; yet are all the more powerful because they continue to remain outside perceiver awareness. In the social world, discriminatory judgments and behaviours occur precisely because perceivers often remain unaware of implicit stereotypes and cannot accurately identify biasing influences (Greenwald & Banaji, 1995; Dunning & Sherman, 1997).

Much of the research into implicit stereotyping has followed from Dovidio, Evans, and Tyler's (1986) work with category priming. Dovidio and colleagues showed participants category labels 'White' and 'Black' as primes designed to activate relevant knowledge

stores such as stereotypes. 'White' primes resulted in the fastest responses when traits stereotypically associated with 'Whites' were presented and were positive, while 'Black' primes showed the opposite. Dovidio et al. demonstrated that not only were primed categories accessed faster, but so too were the evaluations associated with that category. In order to ensure that participants were not aware of the prime-target relationships, subsequent studies have used social category primes presented for less than 100 ms to elicit preconscious stereotype activation (Bargh et al., 1996; Blair & Banaji, 1996; Devine, 1989; Fazio et al., 1995). Conscious processing strategies, on the other hand, take over 500ms to become fully active (Neely, 1977).

Banaji, Hardin, and Rothman (1993) also demonstrated the impact of implicit stereotypes on people's judgments by priming gender stereotypes in participants who unscrambled sentences. Participants activated gender stereotypes unconsciously to make corresponding judgments of the behaviours of males and females who had both behaved in exactly the same way. Implicit stereotypes of the elderly were also primed in participants by Bargh et al. (1996) who found that primed participants afterwards took longer to walk down the hall. Bargh's research suggests that implicit stereotypes not only influence cognition, but behaviour as well. People who have well-rehearsed cultural stereotypes, such as those of the developing-world poor that are constantly reinforced by the media, may find that implicit stereotyping is unavoidable, primarily because perceivers are unaware of stereotype activation and of the biased thinking and behaviour that follows (Locke & Johnston, 2001). Thus, implicit stereotypes, unless controlled in some way, will compromise the intentions of even the most egalitarian perceiver, influencing and guiding subsequent judgments and responses.

Stereotype Dissociation: Stereotype Application

Stereotype activation in perceivers is not always followed by corresponding judgments and behaviour. Research shows mixed results in perceivers' use of activated constructs, suggesting that some perceivers succeed in controlling the expression of stereotypes (Banaji & Greenwald, 1995; Blair & Banaji, 1996). Perceivers appear to monitor and

control explicit responses and thus override the influence of activated stereotypes (Plant & Devine, 1998) in various situations - such as when they are dependent upon others (Neuberg & Fiske, 1987; Erber & Fiske, 1984), when they experience conflict between feelings and thoughts and an egalitarian value system (Gaertner & Dovidio, 1986), and when they need to adjust their responses to meet accuracy goals (Fiske & Neuberg, 1990).

Empirical evidence for control in stereotype application can be seen in research where evidence of stereotyping on an implicit measure is not highly correlated with measures of stereotyping using an explicit measure (Devine et al., 2002; Dovidio, Kawakami, & Gaertner, 2002; Kawakami & Dovidio, 2001). When implicit stereotyping moves to conscious awareness, perceivers are able to draw upon cognitive (Gilbert & Hixon, 1991) and motivational (Devine, 1989; Kunda & Sinclair, 1999) resources to control or overrule an activated stereotype. However, the nature of control over stereotyping is affected by the availability of cognitive resources (Devine & Monteith, 1999). Gilbert and Hixon (1991) demonstrated the role of cognitive resources in stereotyping in two experiments by asking participants to complete word fragment completion tasks, that could be completed in a stereotypic manner (e.g., "s_y" could be "shy" and "r_ce" could be "rice"). Half the participants performed a resource-consuming exercise (i.e., they were told to remember an eight-digit number) during the word-completion tasks that were presented to participants by either a Caucasian or Asian female assistant. Gilbert and Hixon found that cognitively busy participants working with an Asian assistant generated less stereotypic completions than not-busy participants (demonstrating disruption to stereotype activation). However, cognitively busy participants were more stereotypic when completing subsequent rating and recognition tests (stereotype application). Thus, cognitive busyness was seen to inhibit the activation of stereotypes, but have the opposite effect upon stereotype application, facilitating it. These findings suggest that unless participants possess adequate cognitive resources, a prerequisite of controlled processing, they may be unable to regulate the application of activated stereotypes.

Devine (1989) argues that automatic stereotype activation leaves perceivers facing a dilemma; having incorporated egalitarian ideals and goals into their value system, they come to recognise that such values are not always integrated into their judgments of others (stereotype application). According to Devine's dissociation model, perceivers subsequently become aware of a discrepancy between their beliefs and values and ensuing actions, prompting a correction process to remove stereotypical influence. Devine and colleagues (2002) examined participants' motivations to respond fairly and justly to others and suggested that people regulate the expression of their stereotypes according to their motivations. Participants whose motivations to behave in an unbiased manner are external (e.g., they strive to meet normative standards) regulate the explicit expression of their stereotypical thinking in response to external factors, when, for instance, they are surrounded by others whom they assume to be nonprejudiced. By contrast, those with high internal motivations (e.g., they possess personally important beliefs about justice) were less likely to do so.

In social situations, participants have demonstrated control over stereotype activation by making compensatory responses following suggested anti-gay bias (Monteith, 1993, Experiment 1), biased information gathering in job interviews (Neuberg, 1989) and gathering individuating information to replace stereotypic thoughts (Fiske & Neuberg, 1990). There is evidence then, that perceivers can and do exert mental control when it comes to the expression of unwanted stereotypes. Nevertheless, unless perceivers have both the cognitive capacity and the motivation to suppress stereotypical thinking, activated stereotypes may be applied.

Summary

In the preceding section I have explored the activation and implementation of categorical thinking. In perceivers' interactions with others, categories are not only an efficient way to retrieve extensive information in memory, but they provide perceivers with expectations and biased information about a target person. The effortless activation of social categories is evidenced in the unconscious or automatic operation of

stereotypes (Bargh, 1994; Devine, 1989; Hamilton & Sherman, 1994), and particularly in implicit stereotypes, where perceivers continue to be unaware of the original source of information or bias. Although perceivers may use activated knowledge to guide information-processing strategies, they do not always apply this information, suggesting that stereotype activation and stereotype application are two different processes. Viewers of aid advertisements, whose stereotypes of the poor are easily and frequently activated due to repeated exposure to advertisements, may want to control unconsciously activated stereotypic thinking for either social reasons, to meet normative pressures, or personal reasons to satisfy personal value systems. According to Wegner and Wenzlaff (1996) mental control "is the influence we exercise over our own minds" (p. 466); one of the most obvious methods of mental control is thought suppression. However, thought suppression is a process that often fails; moreover, it can be counterproductive, and produce unexpected, unintended outcomes (Wegner & Erber, 1992; Wegner, 1994).

Mental Control: Suppressing Unwanted Thoughts

One way upon which people rely to regulate their thinking is to try and control unwanted thoughts by suppressing them. Suppression may be a default strategy for many. For example, although participants were not given specific instructions as to how they might suppress specific information, those in Bouman's (2003) study reported that they relied primarily upon thought suppression when they were asked to not mention elephants in their talk. Individuals appear to think about stereotypes in much the same way as they consider unwanted thoughts. That is, people believe that if they do not think about unwanted thoughts, they will be in control of their behaviour in some specific social situation (Wegner, 1994). Suppressing or inhibiting thoughts is something that people attempt regularly and in many everyday situations: trying not to think of food when hungry, trying not to revisit problem situations and trying not to think about pain, smoking or why one cannot sleep. But a wide range of research from the clinical domain has documented difficulties in thought suppression in relation to depression (Wenzlaff, Wegner, & Roper, 1988), obsessive-compulsive disorder (Janek & Calamari, 1999), and

anxiety and emotional episodes (Koster, Rassin, Crombez, & Naring, 2003). In social psychology, researchers have reported how thought suppression might affect perceivers' stereotypes (Macrae et al., 1994; Monteith, 1993), and impact such activities as legal decision making (Edwards & Bryan, 1997) and the evaluation of job applicants (Kulik, Perry & Bourhis, 2000). Suppressing stereotypes, therefore, like suppressing unwanted thoughts, appears to be extremely difficult and ineffective.

Thought Suppression is Difficult

Classic studies on thought suppression, conducted by Wegner, Schneider, Carter, and White (1987) suggest that people who suppress unwanted thoughts often do not succeed as unwanted thoughts tend to become more troublesome and pervasive (see also Wegner & Wenzlaff, 1996; Wenzlaff & Wegner, 2000). Wegner's research found that thought suppression leads people to subsequently experience an increased incidence of target thoughts. This surprising outcome followed the experiment, (already briefly referred to in Chapter 1) conducted by Wegner and his colleagues, who told undergraduate students to try not to think about a white bear for five minutes and to ring a bell or report when the unwanted thought appeared in their consciousness. The suppression group reported a greater incidence of more unwanted thoughts in a subsequent expression condition than did participants who initially expressed their 'white bear' thoughts before a suppression condition. This outcome, that is, increased levels of the unwanted thought following the cessation of suppression attempts, is known as the rebound effect. Individuals are thus haunted by intrusive thoughts, and in the social domain, perceivers might find their behaviour being influenced by a greater incidence of unwanted and unintended thinking (Macrae et al., 1994; Wegner & Gold, 1995; Wenzlaff, Wegner & Roper, 1988).

Following the first white bear experiment (Wegner et al., 1987), subsequent studies examined the paradoxical rebound effect of thought suppression in relation to a wide variety of target thoughts. Rebound effects were also found in relation to neutral thoughts such as green rabbits (Clark, Ball & Pape, 1991) and even vehicles (Lavy & Van den Hout, 1990). In an effort to examine the implications of thought suppression in

the clinical domain, Salkovskis and Campbell (1994) had participants suppress personally relevant unpleasant thoughts and found increased levels of unwanted target thoughts following periods of suppression. Other researchers examined how the emotional valence of target thoughts might affect rebound outcomes, although findings have been inconsistent. For example, Kelly and Kahn (1994) found that suppressors reported similar results for either pleasant or unpleasant intrusive thoughts and rebound effects only in the case of neutral, polar bear thoughts. However, Roemer and Borkovec (1994) reported that suppressors who tried not to think about depressing thoughts about a past loss experienced a higher incidence of the unwanted thoughts following suppression than participants who suppressed a neutral thought. Recent work by Wyland and Forgas (2007) has found clear evidence for rebound effects for participants in a negative rather than a positive mood group. Reports of higher levels of intrusive and unwanted thoughts following periods of suppression lend weight to Wegner et al.'s (1987) assertion that thought suppression might paradoxically end up by "producing the very obsession or preoccupation that it is directed against" (p. 5).

The Theory of Ironic Processes

An important strategy in stereotype suppression is to control one's thinking, monitoring it for unwanted thoughts and judgments. During this process, people seek to actively banish stereotypic thoughts from consciousness and seek out replacement distracter thoughts (Wegner, 1994; Wegner & Erber, 1992). Replacement thoughts are of value when perceivers can successfully focus upon counterstereotypic, rather than stereotypic, attributes of the target group. Unfortunately thought suppression tends to increase one's preoccupation with the unwanted thought or stereotype.

In 1994, Wegner proposed the ironic processes theory to explain the paradoxical rebound effect; a theory based upon the interaction of automatic and controlled cognitive processes. The theory of ironic processes (Wegner, 1994, 1997; Wegner & Wenzlaff, 1996) maintains that when people resolve to suppress a specific thought, they first engage in an effortful and conscious search for distracter items in order to focus on

something other than the unwanted thought. Concentrating on distraction tasks is demanding and consumes cognitive resources, and like other controlled cognitive processes is vulnerable to interruption. At the same time that suppression is initiated, an automatic monitoring process is set in motion. This process repeatedly searches the mind, unconsciously and automatically, for evidence of thoughts that are inconsistent with the achievement of successful control; it continually checks for the unwanted thought. Any failure of mental control detected by the monitoring process prompts the activation of the operating process, which is then reset. Thus, the operating process seldom acts continuously, rather it responds to the monitor's signal of operating process failure (Wegner, 1994). It is the interplay between these two cognitive systems that can finally determine whether or not the suppression process will be successful.

Consistent with theories of automatic and controlled processes, the operating system requires an adequate supply of cognitive resources to be able to function, whereas the ironic monitor needs only a minimal number of cognitive resources. When viewers attempt to suppress unwanted thoughts, the cognitive resources required to action this process might temporarily drain the operating system's capacities yet leave the ironic monitoring system to continue processing. Unless there are sufficient cognitive resources available to divert attention to other thoughts or activities the monitoring system will continue to bring up instances of the unwanted thought. The monitoring system's continual checks for unwanted thoughts therefore make unwanted cognitive material more accessible. Further, the monitoring process can linger, even after effortful processes have ceased, continually sensitising the mind to unwanted material (Wenzlaff & Wegner, 2000). Therefore, when controlled intentional suppression ends, or is interrupted, unwanted thoughts become hyperaccessible and are much more likely to be activated, giving rise to a rebound effect (Wegner et al., 1987).

Thought Suppression and the Rebound Effect

Suppressing stereotype-related thoughts is effortful (Muraven, Tice, & Baumeister, 1998; Wegner, 1997). Wegner and Erber (1992) hypothesised that rebound effects will

surface when a shortfall in cognitive resources allows the monitoring system's automatic search for the unwanted thought to bring it continually back into consciousness. Indeed, studies have demonstrated that when participants are encumbered with cognitive demands, such as time pressures and concurrent memory tasks during suppression, they are likely to experience enhanced accessibility of unwanted thoughts compared to control groups who have not been asked to suppress at all (Macrae, Bodenhausen, Milne, & Ford, 1997; Wenzlaff & Bates, 2000).

Wegner and Erber (1992, Experiment 1) examined the hyperaccessibility of suppressed thoughts by asking participants in their first experiment to engage in a word association task. The researchers expected that time pressure imposed upon participants would only interfere with the operation of controlled operating process, leaving the automatic monitor to function unchecked. Thus, suppressors should demonstrate thought hyperaccessibility by responding more frequently than the control group to the target word when encountering a prompt. Participants were asked to suppress (or, alternatively concentrate upon) certain words, such as 'house' for a period of five minutes and then to complete a word association task on the computer. The dependent variable was the number of verbalised responses to prompts that were either closely related or unrelated to the target word. For example, target prompts for the word 'house' included 'home', 'door', 'brick', and 'roof' while nontarget prompts included such words as 'mother' and 'little'. Under time pressure, suppressors responded to target prompts with the target word more often when time pressure was high ($M = 0.23$) than when it was low ($M = 0.05$). These results indicate that people who engage in suppression are therefore employing a self-regulatory process that consumes cognitive resources, making hyperaccessible thoughts more likely when there is a shortage of cognitive resources or when participants are engaged in concurrent tasks (Muraven & Baumeister, 2000).

Other ironic outcomes have been reported when suppression is undertaken under mental load, including increased accessibility of the unwanted thought (Wegner & Erber, 1992), a decreased ability to ignore stereotypic material (Macrae, Bodenhausen, Milne, & Ford, 1997), and increased accessibility of distracters following intended concentration

(Wegner, 1997). In the social domain, where heightened levels of stereotypical thinking could have important social repercussions, researchers have investigated whether the suppression of unwanted stereotypes might have similar paradoxical effects (Macrae, Bodenhausen, & Milne, 1998; Macrae, Bodenhausen, Milne, & Jetten, 1994; Monteith, Sherman, & Devine, 1998).

Stereotype Suppression and the Rebound Effect

Macrae et al. (1994) reported the results of three experiments designed to measure rebound effects following stereotype suppression. In their first experiment, participants were asked to write a five-minute essay describing what might happen in a 'typical day in the life of a skinhead'. The experimental group was asked to refrain from thinking stereotypically about the skinhead and to avoid using stereotypic thoughts when writing their story. Participants then went on to write a second five-minute essay, but this time there were no instructions given to the experimental group. The experimenters reasoned that, in line with Wegner's suppression paradigm, the suppress group would write higher levels of stereotypical phrasing in the second essay, in relation to the control group, thus demonstrating a rebound effect. Two independent assessors rated the essays in terms of their stereotypicality (from 1= not at all stereotypic and 9 = very stereotypic) and as they were in agreement, a single measure of stereotypicality was computed for each essay. As expected, levels of stereotypical phrasing were significantly different for two groups; means showed that the suppress group had written lower levels of stereotypical phrasing than controls in their first essay, and as predicted, had written more stereotypical information in their second essay ($M = 7.8$) than did the control group ($M = 7.1$). Macrae and his colleagues present these results as initial evidence for the rebound of stereotypic thoughts following a period of suppression.

In a second experiment, participants were again asked to write a five-minute essay that described a 'typical day in the life of a skinhead'. Once again the suppress group was instructed to avoid using stereotypes as a guide for their writing. At the conclusion of the essay-writing exercise, participants were taken to an adjoining room and asked to

choose a seat from a row of eight chairs. On the first chair sat the belongings of a skinhead, who was described as being temporarily out of the room; thus, available seats were those from 2 to 8. Compared to the control group, people from the suppress group who had once again written less stereotypical material in their first essays, sat at a greater distance from the target's belongings ($M = 5.2$) than did the control group ($M = 4.4$). This implicit measure of behaviour (i.e., participants may be aware of the stimulus but are not likely to be aware of the effect this event has upon their behaviour) indicates that stereotype suppression might have an important influence in shaping perceivers' behaviour towards a social target. Moreover, suppressors may not be aware of their behaviour towards others and might behave in a way that is incongruent with their initial intention (Kawakami, Young & Dovidio, 2002; Bessenoff & Sherman, 2000).

In their third experiment, Macrae and colleagues sought to determine whether stereotypes actually become hyperaccessible following a period of suppression. The experimenters used a lexical decision task to assess construct excitation, expecting that due to repetitive priming that occurs during suppression, stereotypes, and their contents, would become more accessible. As in the first two experiments, participants first wrote a five-minute essay about a day in the life of a skinhead and the suppress group avoided the use of stereotypes. Participants then completed a computerised decision-making task where they were expected to characterise letter strings of words that were stereotypic of skinheads, distracters, or non-words. Responses were faster in members of the suppression group for stereotypic words (571 ms) than they were in members of the control group (690 ms). Results from this experiment indicate that although the applicable stereotype is accessible for both suppressors and control participants (distracter words attracted longer response times than stereotypic trait words for both suppress and control groups), stereotype activation was stronger for the suppress group. Macrae et al. argue that the suppress group in the lexical decision-making task thus exhibited evidence of stereotype hyperaccessibility.

Stereotype Suppression Leads to Repeated Priming of the Construct

Macrae et al. based their reasoning and experimental predictions on two theoretical approaches: Wegner and Erber's (1992) original model of mental control, and cognitive principles of priming and construct accessibility (Bargh & Pietromonaco, 1982; Higgins, Bargh, & Lombardi, 1985). Wegner and Erber's research had demonstrated that thoughts were subsequently more accessible following interference in the form of time pressure that was expected to compromise the operation of the controlled operating process. According to this theory, the interaction between the automatic monitoring process and the controlled operating process means that when there are insufficient processing resources available, suppressed thoughts persistently enter consciousness. However, Macrae et al. (1994) proposed that the process of suppression itself might also be responsible for rebound effects. They suggested that the very search and focus efforts of the ironic monitor repeatedly prime any unwanted thoughts, rendering them even more accessible. Thus, due to the constant checking of the ironic monitor, attending to and remembering unwanted thoughts can become powerful primes for behaviour.

This reasoning is based on Higgins, Bargh, and Lombardi's (1985) 'synapse' model of knowledge accessibility and activation; in this model, constructs that are excited or activated subsequently dissipate energy slowly over time. The decay of the excitation level of a construct over time is, like synapses, slower for a construct that has been recently or frequently activated than it is for a construct that has been activated only once. The synapse model assumes that constructs have variable levels of excitation, but a construct with a high level of excitation at a particular time is more likely to be activated when it is primed (i.e., exposed to the stimulus). The theory of spreading activation assumes that the accessibility of stereotypical constructs increases as a result of the construct's relations or connections to other stereotypic information (Higgins & King, 1981). Thus, priming processes, rather than the ironic processes described by Wegner and Erber (1992) may underlie post-suppressional rebound.

In support of this explanation, Macrae et al. (1994) point to the results from their Experiment 3, where, in the lexical decision task, suppressors demonstrated greater

evidence of construct activation following a period of suppression. Suppressors in this experiment were faster to respond to stereotypic words, showing evidence of higher levels of accessibility than control subjects. Macrae et al.'s explanation of the rebound effect is based on cognitive theories of construct accessibility (Higgins, Bargh, & Lombardi, 1985) where accessibility is defined as the activation potential of available knowledge (Higgins, 1996). Activated concepts are thus more easily accessed from memory when perceivers encounter relevant stimuli; moreover, the frequent activation of unwanted stereotypes serves to repeatedly prime unwanted material. Monteith, Sherman, and Devine (1998) also believe that the day-in-the-life methodology, typically used in suppression research, may also serve to prime unwanted stereotypes; they suggest that participants, who suppress their stereotypes while writing short essays, are likely to activate the unwanted stereotype in order to monitor the contents of their stereotypes to ensure that they do not appear in the writing. Once again, specific suppression processes may act to consistently prime stereotypes so that accessibility is increased, leading participants to experience stereotype rebound effects.

Summary

The ironic process theory contends that thought suppression leads to ironic unintended outcomes. Similarly, stereotype suppression has been shown to lead to heightened accessibility for cognitive stereotypes, leading perceivers to make more extreme evaluations of target groups. Many studies have found evidence of increased stereotypic thinking, judgments and behaviours in suppressors across a variety of target groups. In the following section I examine research where rebound effects appear to have been moderated by cognitive and motivational attributes of the perceiver and discuss how viewers of aid advertisements might experience hyperaccessible stereotypes following the activation and suppression of their stereotypes of the developing-world poor.

Stereotype Suppression does not Always Lead to Rebound Effects

Stereotype rebound effects are not consistently found across experimental studies. For example, Wyer, Sherman, and Stroessner (2000) found that rebound effects were not

evidenced 1) when perceivers were motivated to avoid stereotyping racially identified people and 2) when perceivers had sufficient cognitive capacity to enact their suppression goals. Both Monteith, Spicer, and Tooman (1998) and Hodson and Dovidio (2001) conducted experiments based upon the day-in-the-life methodology used by Macrae et al. (1994), but did not find rebound effects in suppressors' stereotypes of gay people and African-American people, respectively. Moderators such as perceivers' motivations and levels of prejudice, practice effects, and the availability of replacement thoughts, along with attributes of the target group, may all influence the likelihood of stereotype rebound effects (Monteith, Sherman, & Devine, 1998). Three factors appear to be essential for stereotype rebound to occur: perceivers need to be aware of their stereotypic thinking (Devine, 1989), have the cognitive resources available to initiate and maintain control (Macrae, Bodenhausen, & Milne, 1998; Wyer, Sherman, & Stroessner, 1998) and be motivated to exert control over their thinking (Galinsky & Moskowitz, 2000; Moskowitz, Gollwitzer, Wasel, & Schaal, 1999).

Cognitive Resources are Necessary for Successful Suppression

A defining variable in successful thought suppression is the availability of cognitive resources (Wegner & Erber, 1992). Rebound effects occur primarily because perceivers need cognitive capacity for suppression; exerting mental control is an effortful and resource-depleting process (Muraven & Baumeister, 2000). Engaging in correction processes, such as suppression, is compromised in most environments by requirements to be fast, efficient and selective. However, the literature shows that under some circumstances, rebound effects can be avoided, for example, when people have adequate cognitive capacity and readily available distracters, and target information is not highly stereotypical. In addition, chronic stereotype suppressors who habitually work towards being fair, unbiased and just in their interactions with others may become practiced at inhibiting unwanted stereotypic thoughts.

Bargh (1990) argues that perceivers who are practised at associating certain goals with stimuli, such as responding fairly to target group members, can automatically activate

such goals when the target members are encountered. In line with this, Moskowitz et al. (1999) showed that chronic egalitarians, committed to treating women in an unbiased manner, automatically inhibited the activation of unwanted stereotypes of women. Those perceivers who have become practised at stereotype suppression and have developed a habitual, automatic, response may not require excess mental energy; these suppressors may not always experience rebound effects. However, for many perceivers, three cognitive aspects of suppression can increase the likelihood of rebound: engaging in self-control, suppressing unwanted stereotypes, and employing suppressors' distinctive cognitive processing strategies.

First, stereotype suppression requires that perceivers engage in self-control, a process that requires effort and cognitive resources. In perception, control efforts are generally regarded as deliberate, and follow on from early, often automatically activated, impressions of others that are then 'corrected' in a consciously controlled manner (e.g., Gilbert, 1989; Devine & Monteith, 1999). According to Muraven and Baumeister (2000), the process of self-control consumes cognitive resources that are limited and require time to be restored. For example, research has shown that activities such as keeping a secret (Lane & Wegner, 1995), suppressing long-lost feelings (Wegner & Gold, 1995), and hiding feelings from others (Gross & Levenson, 1997) affect participants' capacity to perform on subsequent tasks. In line with the ironic processes theory, adequate mental capacity is necessary for successful suppression, as not only do individuals need to suppress unwanted thoughts but they also need to remember the information that they are trying to suppress.

Wyer, Sherman, and Stroessner (2000) demonstrated that when participants' cognitive capacity is reduced, participants are not successful in controlling their stereotypes, *even when they are motivated to do so.* In this experiment, half the participants were first asked to suppress their stereotypes of African-Americans or Asian-Americans and then for a second task, to form an impression of another member of the same racial group. Neither suppressors nor non-suppressors showed evidence of rebound effects in their second task and only suppressors who rehearsed an 8-digit figure throughout the

duration of the second task displayed higher levels of stereotypical judgments. Wyer et al. argue that suppressors under a high cognitive load were unable to avoid activating their stereotypes, then using them to interpret the behaviour of the second target. Despite perceivers' goals to the contrary, suppressors' stereotypes were more accessible and thus were used when participants were experiencing cognitive load.

Second, the suppression process is itself a resource-consuming process that facilitates ironic outcomes (Wegner, 1994; Sherman, Stroessner, Loftus, & Deguzman, 1997). Suppressors must invoke the monitoring process that in turn prompts the operating system to search for distracters in a controlled, deliberative manner. The controlled operating process draws heavily upon cognitive resources (Logan, 1989; Shallice, 1972) and only when cognitive resources are available are perceivers likely to have accessible replacement thoughts. While Wegner et al. (1987) found that participants relied upon cues in the immediate environment as an accessible distraction such as focusing on a light-switch or something similar that had no relationship to the unwanted thought, perceivers suppressing stereotypes need to engage in an effortful, systematic evaluation of others. Engaging in perspective taking, where observers focus upon situational rather than dispositional factors to explain behaviour (Galinsky & Moskowitz, 2000), and individuating a target person (Fiske, 1989), may help perceivers to avoid stereotypic biases, but these strategies cannot be actioned without adequate cognitive resources.

Newman, Duff, Hedberg, and Blitstein (1996) reasoned that suppressors who were under cognitive load would be more attentive to stereotypical information than suppressors who were not, and would interpret behaviour by assimilating information into existing stereotypes. In contrast, suppressors who possessed sufficient cognitive ability were expected to make adjustments for "blatant biasing effects" (p. 466) and make appropriate corrections to their judgments (e.g., Devine, 1989; Thompson, Roman, Moskowitz, Chaiken, & Bargh, 1994). Newman et al. demonstrated an important effect of heightened accessibility on social judgments, which was the assimilation (vs. contrast) of information. Assimilation effects occur when perceivers use accessible knowledge that is relevant to make judgments, and are more likely when perceivers are

both unaware of the impact of activated information (Higgins, 1996) and have limited cognitive resources.

Newman and colleagues asked participants to first talk about people they knew, some being asked to try not to include some specific trait concepts such as honesty and dishonesty. Participants then viewed a silent videotape of a person being interviewed and formed an impression of this person; some participants were given an additional task and thus placed under cognitive load. Suppressors who were not under cognitive load avoided using suppressed traits to characterise the target person, suggesting that rebound effects were dependent upon the amount of effort that suppressors were able to allocate to attending to the target person's attributes and behaviour. In contrast, suppressors under cognitive load tended to use the very information that they had previously suppressed in impression formation, traits that appeared to be assimilated into their stereotypes. The researchers concluded that taxing suppressors' cognitive resources disrupts the effortful, controlled, distracter process and leaves the ironic monitor to continually search out and prime suppressors' unwanted thoughts.

Finally, suppressors not only tax cognitive resources in pursuit of self-control and successful suppression, but they are also likely to employ specific cognitive processing strategies that increase the likelihood of rebound effects occurring. Research shows that suppressors and nonsuppressors encode and store stereotypical and nonstereotypical information about a target person in a different manner, suggesting that cognitive processes may differ for these two groups (Macrae, Bodenhausen, Milne, & Wheeler, 1996). It is important to note that the knowledge base on which suppressors may base their judgments is likely to include more stereotypical than nonstereotypical information about the target. For example, Macrae et al.'s (1996) data show that, due to the suppression process, suppressors have less attentional capacity for processing target-related information and are much more likely to spontaneously recall unwanted stereotypical information (Experiment 2). Similarly, Dumont et al. (2003) reported that suppressors in their experiments reported more polarized impressions of the target group as a whole and used more stereotypical evaluations of target people than non-

suppressors. In addition, stereotype suppressors were more likely to activate and assimilate extreme stereotypic information, whereas inconsistent stereotype evidence was contrasted. Dumont et al. concluded that increased accessibility of stereotypic information, a rebound effect, might be traced to participants' frequent activation of stereotypes during suppression attempts (Macrae et al., 1994; Wegner, 1994).

Summary

Taken together, these results suggest that rebound effects may not emerge in situations where perceivers have an adequate supply of cognitive resources and are able to allocate sufficient attention to individualising target people and to using a controlled evaluation process. However, Macrae et al.'s (1996) findings (Study 1) showed that as the target's profile increased in stereotypicality, suppressors showed evidence of depleted attentional capacity, suggesting that the more stereotypical targets are, the more likely suppression attempts may not succeed. Given that aid advertisements are continually repeated and present people in a highly stereotypical manner, viewers are likely to encode and retrieve information in such a way that suppression attempts may lead stereotypical information to become chronically accessible. Since most viewers have no other way of learning about the developing world, their stereotypes will reflect this one, consistent source of information. Thus, it is not hard to imagine that people will have insufficient processing resources to maintain effective thought suppression strategies, especially if they are watching television and participating simultaneously in other activities. Unfortunately, research has shown that a minor distraction or interruption can disrupt the suppression process and hijack even the best intentions of the perceiver.

Perceivers must be Motivated to Successfully Suppress Stereotypes

Many people are motivated to articulate and express views of others that reflect ideals of fairness, justice, and egalitarian standards. Deviation from these goals may disappoint colleagues and lead to public censure, legal sanctions, and personal condemnation (Monteith, 1993). Implicitly activated stereotypes (i.e., those arising without the

perceiver's awareness or intention) often have content that transgresses sensitive personal and social norms and is at odds with perceivers' goals to be fair and egalitarian (Banaji & Greenwald, 1995). There are strong motivations therefore for individuals to control their stereotypes and to develop and demonstrate a consistent, fair, and controlled approach in their interactions with others. Perceivers' motivations, either internal or external, may even be a direct determinant of rebound effects (Gordijn et al., 2004).

Perceivers' motivations are prompted by either personal or social concerns; these have been shown to lead to different emotions and outcomes. To clarify these differences, Plant and Devine (1998) developed the Internal Motivation to Respond without Prejudice scale, measuring respondents' commitment to expressing fair, non-prejudiced responses in line with personal beliefs and standards, and the External Motivation to Respond without Prejudice scale, measuring the extent to which non-prejudiced responses are prescribed by social norms or external forces. Egalitarian values are important to many in society, research showing that some people experience guilt and compunction when personal values of fairness are transgressed (Devine, Monteith, Zuwerink, & Elliot, 1991). Plant and Devine have identified clear differences between participants in terms of their motivations to respond to target groups without prejudice. Specifically, internally motivated perceivers are more confident in intergroup interactions and display lower levels of implicit race bias in their 'startle eye blink' responses to African-American faces (Amodio, Harmon-Jones, & Devine, 2003).

Because internally and externally based motivations result in different outcomes, internal motivations leading to feelings of guilt and self-recrimination, and external motivations leading to feeling fearful or threatened, rebound effects may vary accordingly. Specifically, people who are not internally motivated to suppress their stereotypes may be more likely to evidence rebound effects, because their motivations are at odds with social or contextual norms. One explanation for this is that when they must comply with prevailing norms, externally motivated perceivers need to exert more mental control, only to subsequently experience a depletion of cognitive resources

(Gordijn et al., 2004). Therefore, externally motivated perceivers face not only a conflict between their internal values and externally demanding norms, but they may also experience related stress, thus putting more pressure upon cognitive resources. In addition, externally motivated perceivers may find that their motivations to appear just and egalitarian backfire when suppression attempts lead to rebound effects. Internally motivated perceivers, on the other hand, may not always evidence rebound effects in their judgments of others, due to differing cognitive resource requirements and practice effects. Practise effects occur when there is an increased likelihood of specific processing for a particular task, due to previous practice (i.e., recent and frequent activation).

Practise Effects may Avert Rebound

People vary in their commitment to controlling stereotypical judgments about others, but some are practised in suppressing information as a result of repeatedly suppressing unwanted thoughts (Moskowitz et al., 1999). Practised suppression of unwanted stereotypic material can lead people to avoid both stereotype activation and application (Kawakami, Dion, & Dovidio, 1998). Repeated practice may mean that the controlled operating process operates efficiently, requiring a minimum of cognitive resources, and successfully searching for and providing the perceiver with distracters. Given the different cognitive requirements of the ironic monitor and the controlled operating process, a practised suppression process that becomes automatic and efficient is likely to obviate rebound effects (Wegner, 1994).

Demonstrating the effects of practice in stereotype use, Kawakami et al. (2000) asked participants to practise responding "NO" to presented stereotype traits following category representations and "YES" to nonstereotypic associations. Across three studies, participants' stereotype activation was assessed by either a primed Stroop task or a person categorisation task; after an extensive amount of training (240 trials and 45 minutes), participants showed reduced activation of traits associated with the stereotype. By repeatedly and consistently negating category-stereotype combinations and

responding positively to category-nonstereotypic combinations and thus saying "NO" to stereotyping, participants showed that with practice, they were able to initiate new associations and disrupt stereotype activation.

Results arising from Gordijn et al.'s (2004) work also provide evidence for practice effects. These researchers found that suppression outcomes such as increased self-control, depleted regulatory resources and hyperaccessibility of suppressed thoughts occurred only for participants who were low in internal suppression motivation (Plant & Devine, 1998). In this research, participants with low internal suppression motivation performed worse when tasks required self-regulation, and were more likely to use stereotypes following periods of suppression. The research described above suggests that repeated efforts to suppress an unwanted thought or stereotype might lead the suppression process to become automatic; such results are consistent with findings that show that personal goals can override accessibility effects in impression formation (Sedikides, 1990). In Sedikides' study, experimental participants were given a task that required them to be systematic and strategic in their processing of information; in contrast to the control group, who had no such goals, they were fair and accurate in their evaluation of others.

Moskowitz et al. (1999) conducted a series of experiments to show that people with chronic egalitarian goals of being unbiased when dealing with others would be able to control their stereotype activation at a preconscious level. Moskowitz et al. reasoned that by pairing goals and stimuli repeatedly, perceivers develop associative links that would soon become automatic. Thus, egalitarian goals could become habituated, leading to an effortless, resource-independent stereotype control process.

To test this hypothesis, the researchers assembled two groups of participants, some with, and some without, chronic goals to be fair and egalitarian to women. Participants completed 100 computer trials, although only 20 were related to stereotypes of women. In each trial, participants first saw a picture of either a man or a woman paired with a picture of an object. Following this presentation, participants saw a word that was either

a stereotypic trait of a woman or a non-stereotype trait word, and their task was to pronounce the word as fast as possible. Participants were expected to be able to control stereotype activation when the SOA was 1500 ms, but not when it was 200 ms. Participants' response times in the pronunciation task confirmed the authors' hypothesis that chronic goals to be fair and unbiased affect stereotype activation; links between participants' goals and the related stimulus had been formed and may have been automated. Specifically, participants with chronic goals to avoid using stereotypes did not respond faster than non-chronics to stereotype relevant attributes when primed by a photograph of a woman, suggesting that stereotypes were not activated in these people. Moskowitz et al.'s results suggest that with constant practice, motivated perceivers may not only be able to suppress information successfully (i.e., avoid stereotype rebound) but some may not even activate relevant stereotypes to begin with.

Stereotypes are not always Activated in Perceivers

Findings from suppression research suggest that some suppressors are able to successfully avoid stereotype rebound if they are strongly motivated to do so; they may regard stereotyping others as personally unacceptable, have goals to control stereotypical thinking and to behave in a fair and egalitarian manner, and be practised and skilled at suppressing unwanted stereotypes. For these people, experiencing stereotypic thoughts transgresses personal values and standards of fairness, and can lead to feelings of guilt (Devine, Monteith, Zuwerink, & Elliott, 1991). Suppressors who are skilled and practised at suppression may have learnt to optimise cognitive resources, automatically seeking out replacement thoughts and information and avoiding rebound effects that arise from failures of the controlled operating process. By attending to nonstereotypic information, skilled suppressors are able to develop and automate associative links between their stereotypes and nonstereotypic information. In line with this theory, some researchers have suggested that perceivers with strong internal motivation may not activate stereotypes at all.

Some perceivers do not appear to activate stereotypes when they encounter the target person (Kawakami, Dion, & Dovidio, 1998; Lepore & Brown, 1997). Blair and Banaji (1996) argued that perceivers who developed expectancies for stereotypical information could exert control over stereotype activation and to show this, they used a priming paradigm with an SOA of 350 ms. In Experiment 1, male and female names (e.g., Jane or James) were presented on the computer screen immediately preceded by trait and non-trait words that were either stereotypically female or male (e.g., flowers-Jane, car-James). Participants were asked to press appropriate keys to indicate whether the names were male or female. As predicted, participants were faster to respond to pairings where traits and gender names corresponded than when trait words were matched with the opposite gender type, indicating automatic activation of gender stereotypes. In Experiment 3, the researchers briefed participants, telling some to expect stereotype-inconsistent prime word combinations on most of the trials (e.g., flowers-Tom), while others were told to expect only stereotype-consistent prime pairings (e.g., strong-Tom). Surprisingly, when participants were provided with expectancies and told they should expect male traits to precede female names (and vice versa), response times for gender-consistent pairings were no longer faster than inconsistent gender-pairings as they had been in Experiment 1. To explain this result, the researchers reasoned that participants had exerted control over the activation of their stereotypes and theorised that motivational control might therefore be possible in the early stages of stereotyping. Accordingly, automatic stereotype activation may not be inevitable and perceivers may be able to "control and even eliminate such effects" (Blair & Banaji, 1996, p. 1159).

Research shows mixed results in support of automatic stereotype activation, citing moderating factors including prejudice level (Lepore & Brown, 1997), cognitive distraction (Gilbert & Hixon, 1991) and processing goals (Moskowitz et al. 1999). Although stereotypes seem to operate in a functional manner, automatically activating when they can be of use to the perceiver, there is ample research showing automatic activation of stereotypes when perceivers simply interact with others (e.g., Bargh, 1999). While there seems to be stronger activation for some categories such as age, gender, and race, perceiver's beliefs that are frequently and repeatedly activated also tend to become

chronically accessible. Therefore, there is good reason to believe that aid advertisements will automatically elicit implicit stereotypes in many perceivers.

Summary

The research reviewed above suggests that motivated perceivers with adequate cognitive resources may avoid rebound effects following stereotype suppression. Rebound effects will also be avoided if perceivers do not activate relevant stereotypes; the literature shows that stereotype activation, rather than being inevitable, sometimes occurs only when stereotyping meets the functional needs of perceivers (e.g., Sinclair & Kunda, 1999). Therefore, in the aid advertisement scenario, rebound effects will not occur if stereotypes of the poor are either not activated, or are successfully suppressed. However, many individuals appear to be unaware and disinterested, or exhibit only a superficial interest in developing countries (Glasgow Media Group, 2000) and thus may not have strong goals to support or develop commitments to aid organisations. These individuals are likely to respond to aid advertisements in a 'default manner', activating stereotypes cued by images of the poor and the context in the advertisement. When an individual's automatic stereotypic thinking reaches awareness, some viewers may consider their impressions of the poor to be unfair and judgmental or may find themselves in a situation where social norms dictate a nonstereotypical approach to others. It is these people who are likely to take steps to suppress their automatically activated stereotypes and who will subsequently experience rebound effects. The stereotypes they have of the developing-world poor will then become hyperaccessible.

Suppressed Stereotypes of the Poor may become Hyperaccessible

Viewers of aid advertisements may make efficient use of cognitive resources by activating stereotypes automatically in response to repetitive advertisements. Cues in the advertisement may trigger automatic stereotypes that can become so entrenched they are hard to change. Viewers may also have reduced mental capacity if they are simultaneously experiencing distraction, tiredness, and stress, or when they are

preoccupied with other activities (Gordijn et al., 2004). Perceivers who are cognitively busy are also under time pressure, a factor that interferes with the performance of the operating process rather than the automatic monitoring process (e.g., Strack, Erber & Wicklund, 1982) and thus leads to higher levels of stereotyping.

Viewers of Aid Advertisements Automatically Activate Stereotypes

Devine's view of stereotype activation is that stereotypes can be effortlessly triggered in an automatic manner. Regardless of participants' personal views, Devine argues that due to legacies of socialisation experiences, most individuals have knowledge of common stereotypes and that these are easily activated without intent or awareness (see also Fiske, 1998; Macrae & Bodenhausen, 2000). In particular, when perceivers are engaged in interactions with people, rather than completing tasks or working with objects, and are thus forming impressions or making judgments about people, relevant social stereotypes are likely to become active automatically.

Macrae, Bodenhausen, Milne, Thorn, and Castelli (1997) illustrated automatic stereotype activation by presenting participants with a series of faces in addition to pictures of everyday household objects. Participants were allocated to one of three conditions: they either indicated the presence of a white dot that appeared on each photograph, simply pressed a key after each photograph was presented, or semantically processed the information by deciding if the photograph was an animate or inanimate object. Each picture was immediately followed by a word and participants were asked to indicate whether it was a word or a non-word. While some words were stereotypic of women, others were not. Only participants in the semantic processing condition, those who had attended to the content and meaning of the photograph, evidenced stereotype activation in this experiment, assessed as faster responses to stereotypic than to nonstereotypic words.

Recent work from Mitchell, Heatherton, and Macrae (2002) has used functional magnetic resonance imaging (fMRI) scanners to show that unique brain areas may be

responsible for processing people information as opposed to objects. Participants in their fMRI study were shown noun-adjective pairs and asked to indicate if the adjective could ever be true of the noun, or not. Nouns were a person's name, such as 'David', or objects, such as 'mango'. Half of the adjectives could describe a person, such as 'nervous' but not any of the objects, and half of the adjectives could describe the objects, such as 'seedless', but not a person. Results were that different brain areas were active when participants were making judgments about people than when they were making judgments about objects.

The results from the two experiments described above provide evidence that the processing of 'people' information is different from the processing of objects. People are more complex; they are associated with behaviours from which perceivers make inferences and attributions (Heider, 1958) that may be stored in memory as part of the stereotype. Stereotypes of people are easily activated in perceivers by the appearance of a target group member as well as environmental cues, and therefore viewers may automatically activate stereotypes of the aid-related poor when faced with graphic depictions of people in poverty.

Recall Blair and Banaji's (1996) assertion that stereotype activation might be controlled in participants who have appropriate expectancies. In Blair and Banaji's Experiment 3, participants provided with expectancies did not show response time differences when identifying gender-related names that followed prime-trait pairings that were either stereotype-consistent prime pairings (e.g., strong-Tom) or stereotype-inconsistent prime word combinations (e.g., flowers-Tom). This was in contrast to an earlier experiment where participants were faster to indicate the gender of pairings where stereotypic traits and non-traits were consistent with the target name. However, Bargh (1999) argues that results from Experiments 1 and 3 in Blair and Banaji's research are strong evidence for, rather than against, automatic stereotype activation. Bargh contends that when participants in these two experiments were told to expect stereotypic-inconsistent prime-target combinations (gentle-John, strong-Jane) and then encountered trials in this vein, automatic activation effects remained the same as when there were no expectancies.

Moreover, Bargh points out that when participants' expectancies were that stereotype-consistent prime-trait pairings would follow, the automatic stereotyping effect was even stronger, than if participants had no expectancies at all. In line with this reasoning we would expect that viewers exposed to high levels of stereotypical information in aid advertisements, such as a poverty-stricken environment, might develop expectancies for stereotypic, rather than nonstereotypic information, and thus automatic stereotype activation will follow.

Viewers Spontaneously Suppress Stereotypes of the Poor

Most suppression experiments are carefully crafted and carried out in university laboratories, but viewers of aid advertisements are in a much less controlled environment. However, recent research suggests that everyday situations may be more, rather than less likely to induce suppression attempts. In Macrae et al.'s (1998) experiments, participants experienced heightened self-focus throughout suppression tasks elicited in a number of ways: a mirror running the full length of the laboratory wall, participants' images appearing on a television monitor, or their surname appearing on the computer monitor. Heightened self-focus was expected to prompt perceivers to behave in accordance with salient personal or social norms, and in particular, to remember that stereotyping others was inappropriate. The authors hypothesised that self-focus would therefore trigger the suppression of any automatically arising stereotypical thoughts. As expected, Macrae et al. found that people with a high self-focus tended to adjust their behaviour in line with normative standards, providing less stereotypic descriptions of a variety of social targets including yuppies, construction workers, politicians, than did the control group. Rebound effects, in the form of higher levels of stereotype content in participants' descriptions of a male hairdresser, were also observed in those who wrote descriptions first under high focus conditions and then under conditions of low focus (Experiment 6). Macrae et al. concluded that high self-focus leads participants to spontaneously suppress their stereotypes, adjusting their behaviour to meet social and personal norms, especially in contexts where social norms against stereotyping are salient. Viewers of aid advertisements may experience a

heightened self-focus because images of poverty highlight the vast differences in lifestyle existing between developing and developed countries.

Wyer et al. (1998) conducted two experiments to determine whether or not suppression effects happen in relatively naturalistic conditions. In the first, after being told that their essays were to form part of a study being conducted by an African-American political group, participants wrote less-stereotypic stories about African American target people than did those in the control condition ($M = 3.70$ vs. $M = 4.55$). In the next experiment, participants who rated their attitudes towards an African American person under a directed suppression condition or a spontaneous suppression condition judged the target person to be more hostile than did those in the control group ($M = 7.92$ and $M = 7.80$ respectively vs. $M = 7.08$). These experiments indicate that situational cues that make social norms against stereotyping salient are likely to be just as effective as instructions to suppress are in the laboratory.

In line with the results described above, viewers of aid advertisements are expected to react similarly, suppressing their stereotypes, when automatically activated stereotypes contain content that perceivers do not endorse, or perceivers are in an environment that discourages stereotyping. Rebound effects have been tested with a wide variety of target groups whose stereotypes differ significantly in terms of content such as skinheads, hairdressers, politicians, Asian-Americans and African-Americans. Monteith, Sherman, and Devine (1998) conclude that mixed results from rebound research may reflect differences in perceivers' personal attitudes towards group members. In addition, they suggest that rebound effects are more likely to occur for perceivers who have high levels of prejudice towards others and also lack the motivation, skills and practice to successfully suppress stereotypic thinking (p. 76).

Suppressors Process Stereotypical Information Differently

Wegner (1994) argues that the availability of mental capacity is the central variable dividing successful mental control from unsuccessful. When perceivers experience

cognitive loads that deplete their resources, suppression attempts can backfire and lead to ironic reversals. Due to the continued operation of the ironic monitor and repetitive priming effects, perceivers' suppressed stereotypes are frequently activated and become hyperaccessible. Using an implicit measure, Macrae et al. (1996) reported rebound effects from participants who were placed under cognitive load. In their first experiment, Macrae et al. asked participants to form an impression of the target after seeing a picture of a skinhead and listening to a short self-description. Self-descriptions of the target contained varying amounts of stereotypical information: either none, one or five items of stereotypic information. Suppressors who completed this task while attending to a randomly presented probe stimulus were significantly slower in responding to the probe stimulus as stereotypicality of the target increased. Probe reaction times varied from 619 ms (control group), to 708 ms (low stereotypic profile) to 1030 ms (high stereotypic profile). The authors concluded that not only is stereotype suppression an effortful, resource-consuming activity requiring a controlled processing strategy, but that cognitive demands are increased in line with increased levels of stereotypicality. In other words, information that is more stereotypical is likely to require both more attention and cognitive resources for suppression, than information that contains lower levels of stereotypical material. Because perceivers pay more attention and thus consume more resources when they suppress larger amounts of stereotypical information, they are likely to have fewer cognitive resources available to attend to nonstereotypical information.

The finding that the more stereotypic the material is, the more resource-consuming the suppression process becomes, has important implications for those who regularly view aid advertisements in the media. Aid advertisements repeatedly use images that can be powerful and affect-laden and therefore have the capacity to strengthen perceivers' stereotypes. Macrae et al.'s research described above shows that highly stereotypical material is more likely to lead to rebound effects in suppressors, due to perceivers' diminishing supply of cognitive resources. Frequently presented stereotypical images in aid advertisements are combined with a suppression process that is itself resource consuming, thus placing further demands upon the perceiver's cognitive abilities.

As suppressors are likely to have a reduced availability of resources available to process individuating information (Neuberg & Fiske, 1987), researchers Macrae et al. (1996) also surmised that participants would be less likely to accurately recall information presented to them by the target's self-description. To test this hypothesis, they asked participants in Experiment 2 to complete a 15-question multi-choice questionnaire to measure recall of knowledge conveyed in the self-description. Results showed that suppressors in the control and low-stereotype profile conditions recalled more target-based information than did suppressors in the high-stereotype profile condition, indicating that suppressors of highly stereotypical material, and therefore under higher cognitive load, are less successful when it comes to attending to individuating and nonstereotypical information. In a second experiment, Macrae et al. asked participants to form an impression of an elderly man who described himself in a short 2-minute videotape. Half the participants were asked to avoid using stereotypes when watching the videotape. Seven days later, results showed that suppressors recalled a larger proportion of stereotypic information ($M = .48$) than nonsuppressors ($M = .34$) and that nonsuppressors recalled more nonstereotypic information ($M = .33$) than did suppressors ($M = .22$). As predicted, suppressors showed depleted attentional capacity, compromising their ability to process and retain nonstereotypic individuating information.

In an extension of this work, Sherman, Stroessner, Loftus, and Deguzman (1997) used a recognition measure to assess suppressors' attention to and encoding of stereotypical information. The researchers used a recognition measure, instead of Macrae et al.'s recall measure, as an indication of stereotype accessibility, in order to minimise the effects of retrieval (i.e., participants' recall results may reflect their ability to retrieve stored information in memory rather than reflect higher levels of attention to the target's behaviour). Suppressors were also expected to not only direct more attention to stereotypical thoughts, as does the ironic monitor, but also to pay increased attention to stereotypical information available in the immediate environment. Participants in this study were asked to form an impression of an Asian student, and half were asked to refrain from thinking stereotypically about this person. The Asian female then described

ten stereotypic and ten nonstereotypic behaviours in a two-minute videotape, some of which appeared in forty statements that participants subsequently viewed on a computer. Next, participants were asked to indicate whether or not they had recognised any of the forty items displayed on the computer monitor from the target's original description. Nonsuppressors did not show any differences in their recognition of stereotypic and nonstereotypic items, but suppressors showed greater recognition of stereotypical than of nonstereotypical information. Sherman et al.'s results support the idea that suppressors attend to and encode people information in the environment in a very different manner to nonsuppressors.

Summary

Suppression outcomes, reported in the studies above, differ as a consequence of cognitive and motivational factors and for a wide variety of target groups. The preceding review suggests that perceivers interacting with the aid-related poor may experience rebound effects only if a number of conditions are fulfilled. Specifically, rebound is likely to follow suppression only when: 1) perceivers activate stereotypes of the poor automatically - automatic stereotype activation is associated with cognitively accessible stereotypes that are frequently and consistently activated and contain strong network associations in memory between target primes and stereotype traits; 2) perceivers are not motivated to control stereotype activation and/or are not practiced in preconsciously controlling stereotypic thinking; 3) perceivers respond to personal or environmental constraints and demands and suppress activated stereotypes in a conscious, controlled manner (stereotype suppression). All three of these conditions must be met for rebound effects to occur.

On the other hand, a review of recent research shows that rebound effects are not likely to be observed when perceivers: 1) do not activate stereotypes of social groups to begin with; 2) are motivated, practiced and skilled at preconsciously controlling stereotype activation; and 3) successfully and efficiently control the application of activated stereotypes. In addition, rebound effects are not likely to be seen in situations where

perceivers feel comfortable with and freely activate, use and apply their stereotypes. A diagram of hypothesised stereotype activation, application and rebound is shown in Figure 1. It is also possible that perceivers activate and apply their stereotypes differentially, depending upon characteristics of the target group (i.e., stereotype content may have significant effects upon stereotyping, stereotype suppression and rebound).

In my research, I wanted to investigate rebound effects that emerge when perceivers are interacting with a target group that has not featured in thought suppression studies to date and might not elicit wholly negative evaluations (i.e., may elicit ambivalent responses). Since the beliefs and attributions in perceivers' stereotypes have significant influences on perceptions of others and perceivers' subsequent behaviour (Pratto & Bargh, 1991; Wittenbrink, Judd, & Park, 1997), stereotype content may be of key importance when assessing suppression and rebound effects. In the next section, I examine how rebound effects might be moderated by the qualitative content in perceivers' stereotypes.
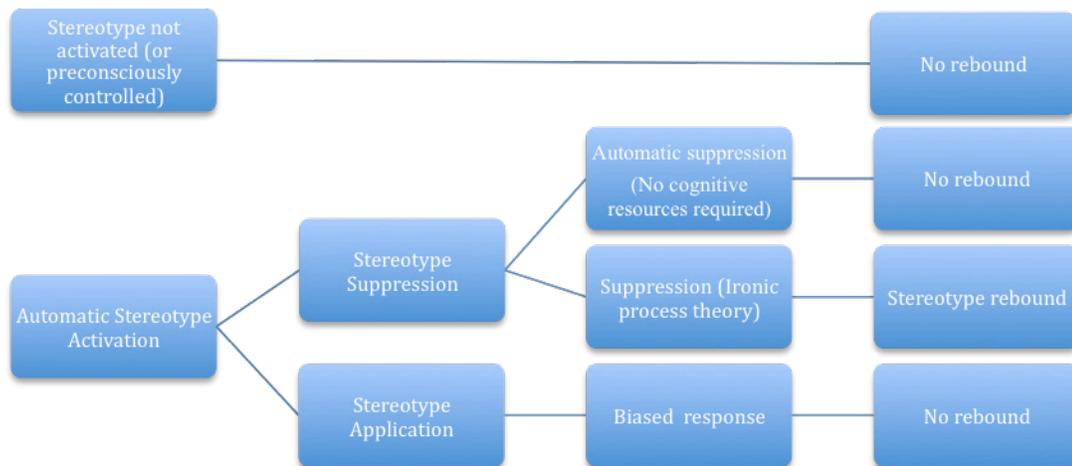
Figure 1

Overview of hypothesised stereotype activation, suppression and rebound

Does Stereotype Content Affect Rebound?

Suppressing thoughts about some targets seems to be more difficult than with others. In the clinical literature, qualities of emotion (Roemer & Borkovec, 1994), valence (Harvey & Bryant, 1998), and personal relevance (Kelly & Kahn, 1994) have been shown to produce different rebound outcomes. Wenzlaff and Wegner (2000) suggest that emotional components of the target such as vividness of images or personal threats posed by the material may make the suppression of unwanted material more difficult than it is with more neutral information. Recently, Klein and Bratton (2007) have reported experiments showing that suppressors were slower to complete sentence tasks when memories were of personal negative experiences than when memories were nonemotional. Suppressors also experienced different levels of intrusive thoughts depending upon the intrusiveness of the memory being suppressed, indicating that emotion levels in thoughts may lead to different suppression outcomes.

Rebound and Socially Acceptable Stereotypes

In the social domain, stereotype rebound has often been examined with target groups such as skinheads. It may be socially and personally acceptable to stereotype such groups; when there are no strong social norms against stereotyping, perceivers may be less motivated to avoid using stereotypes. In addition, skinheads and similar target groups might be automatically associated in the minds of perceivers with predominantly negative traits. Kawakami, Dovidio, Moll, Hermsen, and Russin (2000), in their first two studies, did not find consistent stereotype activation when they primed two very different, skinhead and elderly, stereotypes in perceivers with a primed Stroop task. Social stereotypes of these groups are likely to contain content of different valences. Participants were asked to name the ink colour of stereotypical words such as *criminal, cruel, afraid,* and *thrifty*, following the presentation of either skinhead or elderly primes. Longer response times were predicted when skinhead stereotype words followed skinhead primes compared with elderly primes, and when elderly stereotype words followed elderly primes compared to skinhead primes. Although participants had longer response times when skinhead stereotypes followed a skinhead prime ($M = 624$)

compared to following an elderly prime, elderly stereotypes did not differ as a function of either the elderly (*M* = 609) or skinhead prime (*M* = 617). Participants therefore demonstrated no automatic activation of elderly stereotypes. The researchers suggest that a failure to automatically activate elderly stereotypes was due to either methodological factors or the nature and structure of the stereotype itself. It is possible that the content differences in the two stereotypes may result in differential stereotype activation, although stereotype application, suppression, and rebound effects pertaining to different stereotypes were not part of this study.

Due to differences in content, stereotypes of specific target groups may be differentially activated in perceivers. Rather than consisting of general attitudes or evaluations that are traditionally viewed as negative prejudice, social stereotypes are more likely to reflect the qualitatively distinct beliefs and emotions held by participants towards specific social groups (Cottrell & Neuberg, 2005). In addition, specific stereotype content may also be obscured by research that does not identify the subgroups associated with larger target groups. Thus, the overall stereotype for some social groups may not be an accurate reflection of stereotypes associated with smaller subgroups. For example, Clausell and Fiske (2005) found that subgroups of gays are associated with systematic differences in stereotype content, although the superordinate category of *gays* does not show these differences. With reference to stereotypes of the poor, Lott (2002) reported that the poor of the United States experience distancing and exclusion as a result of negative stereotypes held by a large proportion of the population, and Fiske, Cuddy, Glick, and Xu (2002) found that United States welfare recipients are disliked and disrespected. There are no data, however, to suggest that this is the case in New Zealand. Moreover, such negative beliefs and expectations may not be associated with specific subgroups of the poor, such as the developing-world poor.

Stereotypes of social groups such as skinheads may produce rebound results simply because such stereotypes are not personally rejected by the perceiver (Stroessner, 1998). Perceivers are not likely to feel constrained by social norms when expressing such stereotypes. The perceiver's readiness to stereotype the target group and then engage in

suppression in order to meet social normative pressures may mean that rebound effects are captured in the laboratory more readily with target groups such as skinheads. People's interactions with target groups that are socially unacceptably to stereotype, such as gay men, elderly people and the poor, may elicit stereotypes with very different content from that of stereotypes of skinheads. Rather than reflecting overall negative prejudice, stereotypes of target groups that are socially unacceptable to stereotype may contain qualitatively distinct beliefs and knowledge (Fiske et al., 2002; Fiske, Cuddy, & Glick, 2007). Differences in stereotype content may have important implications for stereotype rebound, affecting the likelihood of stereotype activation, stereotype application and perceivers' motivations to engage in suppression. In addition, it is possible that as stereotype rebound effects represent increased cognitive accessibility of stereotypes, suppressors can be expected to demonstrate a variety of rebound judgments and behaviours corresponding to stereotype content.

Rebound and Socially Unacceptable Stereotypes

Monteith, Sherman, and Devine (1998) examined perceivers' activation and application of stereotypes, using stereotypes of social groups (e.g., gay men) for which there are personal and social concerns over stereotyping. Individuals who suppress potentially sensitive thoughts such as racial stereotypes are likely to have very different motivations from perceivers who attempt to suppress thoughts related to social groups such as skinheads. Rebound effects may not appear or may not be captured simply because people are sensitive to social norms and have personal standards that lead them to refrain from stereotyping (Wyer, Sherman, & Stroessner, 2000). In Monteith et al.'s study, two experiments used pictures of gay men to represent the target group for participants' stereotypes. Low-prejudice participants did not show evidence of rebound either when writing two five-minute essays (Experiment 1) or when completing a word-recall task immediately after writing a five-minute essay (Experiment 2). Only high-prejudice suppressors demonstrated subsequent hyperaccessibility of stereotypes in the word-recall task, recalling a larger proportion of stereotype words than low-prejudice suppressors ($M = .42$ vs. $M = .34$) and high-prejudice nonsuppressors ($M = .31$). In the

explicit task, an awareness of social norms may have influenced participants' essay writing but in the implicit word-recall measure, participants who were more highly prejudiced, and less internally motivated to suppress, may have been unable to change their normal patterns of responding. As with racial stereotypes, and maybe with the aid-related poor, stereotypes of gay men are likely to be subject to personal and social concerns, and rebound effects may not always be evidenced.

Wyer, Sherman and Stroessner (2000, Experiment 1) hypothesised that racial stereotypes are more likely than others to be suppressed. In general, since stereotypical thinking and behaviour towards racial groups is socially unacceptable or even prohibited people are reluctant to express such thinking, even after instructions to suppress such thinking are lifted or removed. Stereotype rebound effects might also be avoided when perceivers fail to use stereotypes activated by initial suppression instructions in subsequent tasks. Wyer et al. again used an essay-writing task, asking participants to describe a 'typical day in the life' of either an African-American or an Asian-American male target. Half of the participants were asked to avoid using stereotypes as they wrote their essays. In a second task, participants read a story about a person named Robert; for some participants Robert's ethnicity was not mentioned, while others were told that it was the same as the person in the essay-writing task (i.e., either African-American or Asian-American). Robert also exhibited a variety of behaviours that could have been attributed to either of these two ethnic groups. Participants then rated Robert's ambiguous behaviour on scales with reference to stereotypic traits of hostility, aggression, passivity, respectfulness, etc. The authors predicted that while suppression increases the accessibility of stereotypes, the outcomes of suppression would depend on whether the target person's race was specified or explicitly stated. Specifically, they predicted that participants who were not told about Robert's race would feel free to use stereotypes that had been made hyperaccessible due to suppression and would display stereotype rebound. On the other hand, participants who were aware of Robert's race were expected to continue to suppress their stereotypes throughout the second task, in response to social and normative pressures. Results were as expected; participants who were aware of Robert's race showed the same level of stereotyping regardless of

whether or not they had suppressed their stereotype. As predicted, suppressors who were in the race-unspecified condition rated Robert more consistently with the stereotype (*M* = 5.17) than did controls (*M* = 4.65). Thus, suppressors whose stereotypes contain content that they might personally reject, or negative beliefs that should not be expressed in the current social situation, appear to be strongly motivated to continue to control the expression of their stereotypes. Wyer et al. concluded that people's motivations determine the effectiveness of stereotype suppression. In turn, perceivers' motivations to suppress stereotypes may be determined by the content of their stereotype.

Social Stereotypes are not All Alike

The traditional view that stereotype content is negative has stemmed, in part, from Katz and Braly's (1933) study, where participants identified adjectives that made up cultural stereotypes for various ethnic and national groups. By identifying adjectives from a master list of 84, participants easily recalled stereotypical beliefs that were predominantly negative in their stereotypes of groups such as Americans, Turks and Jews. In social psychology, stereotypes have been regarded as typically negative determinants of ingroup biases that result in favouring one's own group and developing hostile and unfavourable reactions to an outgroup (Dijker, 1987). From Allport (1954), who claimed that stereotype contents reflect "antipathy towards members of derogated groups", to Gaertner and Dovidio (2000), stereotype research has traditionally focused on unfavourable attitudes and negative outcomes. Devine (1989), however, demonstrated ambivalence in stereotyping by showing that people simultaneously hold positive attitudes towards a social group and are still influenced in their thinking and behaviour by negative stereotype attributes.

Fiske and her colleagues (2002) maintain that stereotypes of many, perhaps most, minority groups are not likely to contain solely hostile and negative evaluations, but instead a mix of both positive and negative content. As stereotypes reflect perceivers' beliefs and knowledge about others, they are likely to contain specific feelings and

emotion towards different groups (Cottrell & Neuberg, 2005). Recent research has uncovered mixed content in many social stereotypes, such as African-Americans, who might be "musical" and "lazy", Jewish people, who might be "clever" and "scheming", or Asians, who might be "clever" and "retiring". Stereotypes such as these indicate that content is important, even more so when subtypes of groups are taken into account (e.g., Clausell & Fiske, 2005). Devine and Baker (1991) identified several subgroups of the global racial category "Blacks" such as athletes, businessmen, and streetwise African-American people, and found three dimensions, negative/positive, athletic, and unique characteristics differentiating the various subgroups. Given that stereotype content varies not only between but also within target groups, it is important to identify consistent differences in stereotypes that differentiate specific social groups. Accordingly, it is predicted that those who feature in aid advertisements are likely to elicit stereotypes of a particular subgroup of the poor. One promising theoretical perspective on content that might be helpful is the stereotype content model (Fiske, Cuddy, Glick, and Xu, 2002). If the rebound experiments using the African poor target group lead to results that differ from the classic studies of Macrae et al. (1994), Fiske et al.'s approach will be used to try and make sense of the findings.

Warmth and Competence in Stereotypes

According to Fiske, Cuddy, and Glick (2007), two universal trait dimensions of social cognition make up the content and structure of perceivers' stereotypes: warmth and competence. Indeed, research in social psychology shows that warm/cold traits are central to impressions due to their overpowering influence in impression formation, and their tendency to affect subsequent judgments. Classic research from Asch (1946) found that individuals using identical lists of words rated a target person quite differently depending on the addition of just one word, either *warm* or *cold*. For example, when the list contained the word *warm*, 91% raters judged the target person as 'generous' compared to only 8% when it contained the word *cold.* Asch concluded that traits such as warm and cold thus have the power to change the interpretation of other traits and information surrounding them. The effects of warmth and competence associated with

stereotypes of different outgroups have been reported with such native-language speakers as French, speaking standard French, and Belgian, speaking non-standard French (Yzerbyt, Provost & Corneille, 2005), working mothers (Cuddy, Fiske, & Glick, 2004) and subgroups of women (Wade & Brewer, 2006).

According to the stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002), warmth and competence judgments determine the answers to fundamental questions that individuals in the social world need to immediately ask when they encounter others First, dimensions of warmth clarify whether or not unknown individuals intend to help or harm, and are judged before competence. Consequently, warmth determines approach-avoidance responses and reliably predicts the valence of subsequent judgments (i.e., whether positive or negative). Thus, warmth comprises a range of traits that reflects the target's intentions: fairness, helpfulness, honesty, sincerity, and trustworthiness. Second, dimensions of competence identified by perceivers in target people may clarify whether or not unknown individuals have the ability to carry out their intentions. Accordingly, dimensions of competence encompass such traits as intelligence, creativity, skillfulness, and efficiency. Cuddy, Fiske, Kwan, et al. (2004) found that dimensions of warmth and competence appear in people's stereotypes, across the USA and in ten other nations, and emerge in both individual (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005) and group-level interactions (Yzerbyt, Provost, & Corneille, 2005). At a group level, qualities of warmth and competence ascribed to groups tend to reflect structural relationships in society, in terms of competition and status. Target groups are therefore perceived in terms of their relative interdependence, either warm or cold, and status, either competent or incompetent. Fiske et al. argue that together, these two dimensions of stereotype content form the basis of interpersonal behaviour, and underlie cognitive structures that guide and inform this behaviour.

Warmth and Competence have Emotional and Behavioural Correlates

In an extension of the stereotype content model, Cuddy, Fiske, and Glick (2007) proposed the Behaviours from Intergroup Affect and Stereotypes (BIAS) Map, a

framework that models how stereotypes and associated emotions shape behavioural tendencies towards groups. Many researchers have suggested that emotions predict behaviours in intergroup relationships more reliably than cognitive measures (Isen, Niedenthal, & Cantor, 1992; Zanna & Rempel, 1988). The BIAS Map proposes that the content differences in stereotypes are associated with distinct behaviours that can be active and passive, facilitative and harmful. Like the stereotype content model, the BIAS Map proposes that negative and positive responses towards outgroups stem from structural appraisals of groups and that the contents of stereotypes, emotions and behaviour all co-ordinate in systematic, functional and predictable ways. In addition, the BIAS Map sets out a framework for each quadrant (i.e., warmth/competence high/low) from which emotions will strongly and directly predict behavioural tendencies. For example, ingroups, viewed as warm and competent, elicit feelings of admiration and pride, while outgroups, viewed as incompetent and cold, lead to feelings of contempt and disgust. Other social groups engender stereotypes of mixed trait combinations: competent but not warm groups elicit envy while incompetent but warm groups tend to elicit pity (Fiske et al., 2002).

Extending this line of research, Cottrell and Neuberg investigated specific emotional reactions, such as anger/resentment, disgust, fear/anxiety, pity, envy, and prejudice, aligned to stereotypes for a variety of subgroups in society, including feminists, African-Americans, Asian-Americans, Christians (fundamentalist and non-fundamentalist), gay men, Mexican-Americans, and Native Americans. As predicted, this research found that different groups evoked qualitatively distinct emotions. For example, Native American groups elicited high levels of pity ($M = 2.18$, $SD = 2.41$) compared to Asian-American groups ($M = 0.22$, $SD = 1.12$). Similarly, Native American groups elicited lower levels of envy in perceivers ($M = -0.13$, $SD = 1.44$) than did Asian-American groups ($M = 0.01$, $SD = 1.34$). It is possible that the developing world poor may fall into the same category as Native American groups and evoke pity, which is associated with high warmth judgments.

Table 1

Hypothesised Emotions Associated with Warmth and Competence in Stereotypes (Fiske et al., 2002)

	Competence	
Warmth	Low	High
Low	Anger, resentment	Envy, jealousy
High	Pity, sympathy	Pride, admiration

The stereotype content model and the BIAS Map enable researchers to systematically disentangle the ambivalent content in many social stereotypes and to predict perceivers' behaviour according to underlying trait dimensions. According to these models, stereotype content can be an important indicator of how perceivers will behave when they interact with and respond to out groups, such as the developing-world poor.

Do Suppressed Stereotypes of the Poor Rebound?

The literature shows that many social stereotypes, rather than being consistently negative, are more likely to contain a mix of positive and negative material eliciting a variety of emotional responses, including prejudice. Therefore, stereotypes associated with various target groups may produce a wide range of rebound effects, determined in part by qualitative differences in stereotype content. Research shows that stereotypes for different target groups may be differentially activated and applied and/or suppressed according to perceivers' beliefs about others. Stereotypes composed of ambivalent content are also vulnerable to self-presentational concerns; although mixed stereotypes contain some positive content, perceivers are likely to be wary of expressing stereotypical judgments and behaviour around others. It is possible that qualitative differences in people's stereotypes and specifically associated emotions, may therefore moderate empirical findings for stereotype rebound. While recent research has reported rebound effects for stereotypes of target groups that might be more 'acceptable' to express, such as skinheads, other studies using stereotypes of target groups that are less

acceptable to express, for instance, race-based social groups, have failed to find rebound effects.

Table 2

Rebound Findings for Stereotyped Groups (Hypothesised Warmth and Competence)

Target Group	Warmth	Competence	Rebound Effects	Researchers
Elderly	High	Low	Higher recall for stereotypic material	Macrae, Bodenhausen, Milne, & Wheeler, 1996 (Experiment 2)
Asian women	Low	High	More accurate recognition for stereotypic behaviour	Sherman, Stroessner, Loftus, & Deguzman, 1997
African Americans	Low	Low	More stereotypical judgments of target person	Galinsky & Moskowitz, 2006
			Faster responses to stereotype-consistent words	Galinsky & Moskowitz, 2000
Skinheads	Low	Low	Faster response times for stereotypic words	Gordijn, Hindriks, Dijksterhuis, & van Knippenberg, 2004 (Study 3)
			More stereotypical descriptions in essays. Physical distancing	Macrae, Bodenhausen, Milne, & Jetten, 1994
			Less accurate recall for target's self-description	Macrae, Bodenhausen, Milne, & Wheeler, 1996 (Experiment 1)
Body-builders	Low	Low	More stereotypical descriptions in essays	Koole & van Knippenberg, 2007
Foreign workers	Low	Low	More stereotypical judgments of target person	Forster & Liberman, 2001 (Studies 3a and 3b)

A search of the rebound literature shows that rebound effects have been consistently reported for target groups that may be judged as low in both competence and warmth

(see Table 2). However, the African poor target group is likely to be judged as high in warmth and low in competence.

Most viewers of aid advertisements can be expected to attend to repeated television advertisements in an automatic (i.e., effortless, involuntary and uncontrolled) manner. Unless viewers have a strong, long-standing commitment to supporting aid-related projects in the developing world, they are less likely to use a controlled, effortful, and systematic approach when charity advertisements are broadcast. In the absence of strong goals to be attentive, and with a focus on leisure activities, viewers may be subject to environmentally triggered, automatic processes that occur below levels of awareness (Gilbert, 1989). Cues in advertisements trigger automatic processes that have important influences on people's thoughts and actions; although perceivers may be cognizant of outcomes of stereotypical thinking, they often do not realise their origin. Due to the implicit nature of much stereotyping and environmentally cued perceptive processes such as categorisation, we can expect the majority of the population in the developed world to respond to aid advertisements in an automatic manner. That is, unless they have goals to be egalitarian and perhaps explicitly supportive of international aid, viewers of aid advertisements are likely to activate unwanted stereotypes, suppress these and subsequently experience rebound effects.

On the other hand, there are a number of reasons why rebound effects may not happen for stereotype suppressors in the context of aid advertisements. First, automatic cognitive processing is conditional, rather than absolute, and often depends upon the occurrence of some specific set of circumstances (Bargh, 1989; Moskowitz et al., 1999). Accordingly, some perceivers may not activate stereotypes in the first instance, or, if they do, may suppress them in an automatic, that is efficient, manner. This possibility assumes that viewers are, or have been, motivated to develop a different, non-stereotypic response to aid advertisements and have become practised and efficient in exerting control. A second possibility is that some target groups may elicit stereotypes whose content perceivers find acceptable and positively valenced, and are willing to express before others; when this happens, perceivers' stereotypes will be applied and

rebound will not occur. Stereotype rebound effects for the developing-world poor are therefore not inevitable.

Four experiments were designed to investigate stereotype rebound effects that might occur for viewers of international aid advertisements. Experiments 1 and 2 were based on the methodology of Macrae et al.'s (1994) experiments and were aimed at examining stereotype rebound effects following perceiver's interactions with poor African people as either increased levels of stereotypical phrasing in essays (Experiment 1) or implicit seating choices (Experiment 2). A third experiment introduced a contrasting target group (African wealthy) and the aim was to examine stereotype rebound effects once again as cognitive and behavioural measures for both African poor and wealthy target groups. Experiment 4 employed an implicit colour-naming task that followed participants' essay-writing task. There were two hypotheses for this experiment. First, stereotype rebound was predicted for suppressors compared to non-suppressors, with longer colour-naming response times being evidence of higher levels of stereotype activation. Second, positive attributes in the mixed content stereotype of the African poor were also expected to be more accessible for suppressors than for the control group.

Chapter Three

Do Suppressed Stereotypes
of the Poor Rebound?

This chapter describes two experiments conducted to see if those who suppress stereotypes of the poor subsequently experience heightened stereotype accessibility - a rebound effect. This effect was not observed in Experiment 1, when both suppress and control groups were asked to view two pictures of poor young people in an African village and to write a short five-minute essay after each viewing. In Experiment 2, when incentives for suppression were relaxed (i.e., participants were unaware that seating choices reflected suppression-induced behaviour), rebound effects emerged: moreover, suppressors' seating choices suggest that stereotypes of the poor are qualitatively different from stereotypes of other social outgroups. The experiments in this chapter have been published in a journal article co-authored with Dr. S. Hill in International Journal of Nonprofit and Voluntary Sector Marketing. **14:** 111-123 (2009).

For most people, controlling their thoughts is an important, although indirect method of controlling what they say and how they behave. In a society that demands fair and unbiased interactions with many different group members, individuals may regularly feel the need to control the expression of socially unacceptable views and judgments. Thought suppression involves expelling unwanted thoughts from consciousness and replacing them with more acceptable cognitions and may be a preferred strategy when interacting with group members of different races (Wyer, Sherman, & Stroessner, 1998), age groups (Cuddy, Norton, & Fiske, 2005), and occupations (Macrae, Bodenhausen, & Milne, 1998).

Studies examining stereotype suppression have investigated rebound effects in relation to a wide variety of target groups; although studies have found that rebound varies by target type, no one has examined what it is about content itself (rather than social attitudes and sensitivities associated with different groups) that might lead to these differences. Indeed, Fiske, Cuddy, Glick, and Xu (2002) suggest that because the social cognitive approach emphasises process, research has tended to neglect stereotype content and its role in influencing social behaviour. They contend that because not all stereotypes are alike, outgroup stereotypes, in particular, elicit a wide range of diverse responses from perceivers[1].

The Stereotype Content Model

The stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002) proposes that two principles of content (e.g., warmth and competence) predict the dimensions of stereotypes, and moreover these two dimensions are combined in different ways that determine different emotions and behaviours in perceivers. Fiske and colleagues conducted nine surveys to test these hypotheses; they found evidence for perceived elements of competence and warmth as defining components of outgroup stereotypes, and also for mixed content in many social stereotypes where dimensions have high-low combinations (i.e., outgroups may be viewed either as competent but not warm, or as not competent but warm). As expected, dimensions of warmth and competence in stereotypes were themselves predicted by elements of social structural relationships, specifically status and competition. For example, status predicts competence, as perceived in outgroups such as Jews, Asians, and African-American professionals, while competition predicts low warmth, as perceived in outgroups such as poor people and welfare recipients. Thus, outgroups with high social status tend to be stereotyped as competent, while groups who are low in social status may be seen as incompetent. As a result, unsuccessful groups, with low social status, have traditionally been seen as lazy

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[1] Although the question of warm-cold and perceived competency run through much of this thesis write-up, they are actually a relatively late addition, i.e., post hoc. Hence it is acknowledged that the analyses of these variables are tentative, and may require refinement, and further analysis, in subsequent papers.

and unambitious, while successful groups, with high social status, are seen as ambitious (e.g., Jost & Banaji, 1994; Tajfel, 1981).

The content of perceivers' outgroup stereotypes thus falls into one of four quadrants: high warmth and high competence (e.g., ingroups, friends), high warmth and low competence (e.g., the elderly, disabled), low warmth and high competence (e.g., Asians, Jews and rich people) and low warmth and low competence (e.g., welfare recipients, impoverished African-Americans). According to this theory, viewers may regard the developing-world poor positively on the warmth dimension, seeing them as cooperative, sincere and tolerant, but negatively on the competence dimension, seeing them as non-competitive, unintelligent and inefficient. Fiske and colleagues maintain that the high warmth/low competence combination is often attributed to subordinate, non-competitive outgroups such as the elderly and handicapped. While these outgroups may be liked and trusted, they are not likely to be respected. Hence, rebound effects may differ for these outgroups from those recorded for outgroups such as skinheads, yuppies and African Americans.

Ambivalent Stereotypes have High/Low Warmth/Competence

Many social stereotypes are more likely to include a mix of positive and negative attributes than to contain content that is wholly negative (e.g., McConahay, 1986; Stephan & Stephan, 1985). Different combinations of warmth and competence result in ambivalent stereotypes that can evoke unique intergroup emotions (Fiske et al., 2002; Cottrell & Neuberg, 2005). For example, perceivers who attribute warmth to target groups with low competence may be able to justify existing group relations and yet maintain a sense of justice and fairness. Indeed, members of low status groups, such as the elderly attract more ambivalence in perceivers' stereotypes than do members of high status groups (Jost & Burgess, 2000). Emotional concomitants for each of the four stereotype content combinations were found to be pity (warm/incompetent), envy (cold/competent), contempt (cold/incompetent) and admiration (warm/competent). Fiske et al. (2002) describes stereotypes of groups that feature low competence and high

warmth, such as the aid-related poor, as paternalistic, containing both positive emotions such as affection and pity and negative emotions such as disrespect and condescension. Combinations such as these represent the core of contradictory ambivalent stereotypes that contain material of opposing valence.

Stereotype Content affects Behaviour

Warmth and competence combinations in stereotypes have also been found to predict distinct behaviours. The Behaviours from Intergroup Affect (BIAS) map (Cuddy, Fiske, & Glick, 2007) proposes dimensions of intergroup behaviour that are either "active-passive" reflecting intensity, or "harm-facilitation" reflecting valence. With respect to an out-group that contains dimensions of low competence and high warmth, as in the African poor, perhaps high warmth is associated with "active facilitation". Related behaviours include helping, assisting, or defending others, prosocial behaviours that are focused upon meeting the needs of the poor in assistance programs and charitable giving. Accordingly, judgments of low competence are associated with "passive harm", a behaviour that excludes other groups socially by diminishing their social worth and ignoring and neglecting their needs. In society, passive harm may be seen in the withdrawal of social support and the limiting of an outgroup's access to resources and aid. For example, Lott (2002) found that people's stereotypes of the US poor lead to social distancing behaviours, those of separation, excluding, and devaluing others, a common response to poor people in the United States by those who are not poor. Lott also described the poor as frequently "invisible", often ignored and deemed responsible for their own plight, an example of "passive harm". Combinations of warmth and competence in people's stereotypes of the poor therefore impact judgments and behaviour and thus may affect stereotype suppression and rebound.

Suppressing Stereotypes of the Poor

Constant media attention and frequent aid advertisements appealing for funds mean that television viewers regularly see the developing-world poor portrayed in poverty. Media

images of these people are compelling; they are emotive (Burt & Strongman, 2005), capturing the attention of viewers and eliciting automatic stereotypical thoughts (Bargh, 1994). Viewers who reject stereotypical thinking or want to ignore troubling media images, may wish to suppress stereotypical thoughts, and so resolve not to think about them. When viewers react in this way, three pre-requisites for stereotype rebound have occurred: stereotype activation, motivation to suppress unwanted stereotypes, and limited cognitive resources.

Thought suppression leads to rebound effects in perceivers who activate social stereotypes and have insufficient cognitive ability to maintain control of their stereotypical thinking and behaviour (Wyer et al., 2000). Unless perceivers have habitualised goals to be unbiased and stereotype free (Moskowitz et al., 1999), suppression processes will be effortful (Wegner, 1994) and subject to interference (Rassin, 2005). Keeping suppressed thoughts under control requires an ongoing supply of cognitive resources that soon become depleted so that control efforts eventually fail (Muraven & Baumeister, 2000). Newman et al. (1996) found that although participants not under cognitive load were able to avoid using suppressed traits to characterise an ambiguous target, those who were under cognitive load not only demonstrated higher levels of cognitive accessibility but also attributed suppressed traits to the ambiguous target person. Therefore, when cognitive resources are low, perceivers apply activated stereotypes, even when they do not intend to do so. Viewers of aid advertisements may find that despite motivations to be unbiased, their attempts to suppress unwanted stereotypes, further depleting cognitive resources, lead to heightened stereotypical thinking and associated behaviours (Macrae et al., 1994). Unfortunately, the cognitive sequence described above might result in potential donors distancing themselves from the developing-world poor, thus undermining the advertisers' intentions.

Two experiments were conducted to test these predictions. Experiment 1 was designed to test whether rebound effects follow stereotype suppression when participants, viewing pictures of poor young people from the developing world were instructed to suppress their stereotypes of the poor. The suppress group was expected to evidence a

rebound effect by writing second essays containing significantly higher levels of stereotypical phrasing than those of the control group, who were not given suppress instructions. Thus H1 was: stereotype suppression leads to rebound effects evidenced in the experimental group as higher levels of stereotypical writing when compared with the control group. Experiment 2 examined rebound effects following instructed suppression of stereotypes of the poor, measured as behavioural distancing. Participants from both groups wrote a five-minute essay about a day in the life of a poor person, and then were asked to choose a seat from a row of chairs, one of which contained the belongings of a student from an African country. Participants in the suppress group were expected to choose a seat farther away (a measure of social distancing) from the alleged seat of the poor person, because their stereotypes may contain content that promotes behaviors associated with "passive harm". Thus H2 was: stereotype suppression leads to rebound, evidenced in the experimental group as greater social distancing, compared to the control group.

Experiment 1

Method

Participants and Design

Participants were 29 second and third year psychology students (5 men and 24 women) at Massey University, Auckland campus, recruited from psychology lectures and tutorials. Each participant was reimbursed for time and travel expenses at $10. Participants were allocated fifteen-minute time slots and came to the Psychology Laboratory individually. A 2 (task instruction: control or stereotype suppression) x 2 (essay: first or second) mixed design was used with repeated measures on the second factor.

Materials and Procedure

The methodology of the current experiment was adopted from Macrae et al.'s (1994) first experiment into stereotype suppression and rebound. Upon arriving at the laboratory participants were greeted by the experimenter, were briefed and then signed consent forms (see Appendix B). All participants were told that the study comprised an investigation of people's ability to construct life event details from visual information (see Appendix C). Participants were randomly assigned to experimental or control groups. As in Macrae et al.'s study, those in the experimental group were informed, "Previous psychological research has established that our impressions and evaluations of others are consistently biased by stereotypic preconceptions. Therefore, in this task, you should actively avoid thinking about the target person in such a manner". Each participant viewed an A4-sized picture of the same poor African person (see Appendix D) and was instructed to take five minutes in which to write a story about a 'typical day in the life of this person' (e.g., Monteith, Spicer & Tooman, 1998; Hall & Crisp, 2003; Galinsky & Moskowitz, 2006). Images of the African poor used in experiments in this thesis were rated by twenty-one independent raters (see Appendix E). The experimental group was expected to write passages of information containing less stereotypical content than the control group. After the participants had completed writing the first essay the experimenter returned and participants then viewed a second A4-sized picture of poor African person (see Appendix F) and again wrote a 5-minute essay describing a typical day in the life of that person. There were no instructions given to the experimental group prior to writing the second essay. Therefore, in the second narrative essay, experimental participants, who experienced a relaxation of the instruction to suppress, were expected to write essays containing higher levels of stereotypical phrasing than those in the control group.

Essays were rated using a 9-point rating scale: 1 (not at all stereotypic) and 9 (very stereotypic) by two independent raters who estimated the stereotypical content of the essays; the raters were also blind to experimental conditions and the purpose of the study. Stereotypical content was defined as any phrase, term, or sentence associated

with the developing-world poor. The level of agreement for both essays in Experiment 1 was $r(27) = 0.77$, $p < 0.01$ (two-tailed). Scores were collapsed for raters and a single measure computed for stereotypical phrasing for each essay.

Results

Passages of information were first examined to establish if participants in the suppress condition had followed instructions and avoided stereotypical thoughts as instructed. Results were examined with a mixed model 2 (task instruction: control or stereotype suppression) x 2 (essay: first or second) analysis of variance (ANOVA) with repeated measures on the second factor. The dependent variable was the level of stereotypicality assigned to each essay. Participants were told that the study was to investigate people's ability to construct life event details from visual information, thus minimizing self-presentational behaviours.

An almost significant main effect of task instruction was observed, $F(1, 27) = 3.99$, $p = .056$, $\eta_p^2 = .13$, $OP^2 = .49$, with the suppression group showing overall lower stereotypicality in their essays ($M = 5.34$, $SD = 2.36$) compared to the control group ($M = 6.77$, $SD = 2.22$). A main effect of measure was significant, $F(1, 27) = 4.72$, $p = .039$, $\eta_p^2 = .15$, $OP = .55$, with second essays being less stereotypical in content than first essays. There was no interaction between task instruction and measure ($F < 1$). For evidence of rebound, a higher level of stereotypical phrasing in the second essays of the suppress group, compared to levels of stereotypical phrasing in the control group, was expected.

Simple effects analyses confirmed that the suppression group as instructed, wrote less stereotypical first essays than the control group ($Ms = 5.61$ vs. 7.47, $SDs = 2.28$ vs. 1.56), $F(1, 27) = 5.11$, $p = .032$, $\eta_p^2 = .16$, but contrary to predictions, the suppression

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[2] OP = "observed power"

group did not subsequently write more stereotypical second essays ($Ms = 5.07$ vs. 6.07,
$SDs = 2.50$ vs. 2.60), $F (1, 27) = .70$, $p = .41$, $\eta_p^2 = .03$.

Post-Hoc Content Analysis

A post-hoc content analysis of 58 essays written about the African poor target group for
Experiment 1 revealed that ratings of warmth were higher than ratings for competence.
Essays were scored on two dimensions: Warmth and Competence. Descriptors for the
two dimensions (Warmth and Competence) were derived from a close inspection of
essays about the African poor and represented traits associated with warmth and
competence (Fiske et al., 2002). For each dimension it was decided whether 10 pre-
determined criteria (see Appendix G) occurred in each essay. For each dimension 5
of the 10 descriptors were 'negative' in nature (i.e., low in warmth or competence) and
consequently reverse scored (i.e., -1 point awarded if the criterion occurred in the
essay). Thus, the final score for each essay ranged between -5 and 5 for each dimension.

Table 3
Average Ratings of Warmth and Competence in Essays

Warmth	Competence
1.76 (1.10)*	1.00 (.82)

Standard deviations are in brackets

Discussion

Results from Experiment 1 are in contrast to those reported in Macrae et al. (1994), who
found rebound effects in essays written by participants about a day in the life of a
skinhead. Rebound effects were not observed in the current experiment; although the
suppress group, as instructed, used less stereotypical phrasing in the first essay than the
control group, they did not evidence significantly increased stereotyping in the second
essay. Three potentially influential factors may account for these results: 1) stereotypes
of the poor are not activated at all; 2) the salience of both social and personal normative

standards throughout the experiment constrains stereotype expression; and 3) stereotypes of the aid-related poor may contain content different from that of other target groups.

First, it is possible that since participants tended not to think about the target group in a stereotypical fashion, there was no activation of the relevant stereotype and therefore no possibility for rebound. However, this explanation cannot explain the fact that the control group wrote more stereotypical first essays than the suppression group. Higher levels of stereotyping indicate that stereotypes of the poor were activated, suggesting that people have easily accessible stereotype-based information about the developing-world poor stored in memory.

Second, what is normal and typical in the context at the time of stereotyping is likely to determine the extent to which stereotypes are applied and used by observers in further information processing; specifically, social incentives to avoid stereotyping are likely to be highly salient in a laboratory and university setting so participants will be especially motivated to avoid using stereotypes. For the suppress group, instructions to avoid stereotyping may prompt a desire to carefully monitor one's expression of stereotypes of the poor when writing both essays, not just the first, where explicit suppression instructions are given. In keeping with this possibility, Wyer, Sherman, and Stroessner (2000) found participants were much less likely to make judgments about race-specified targets than they were about non-race-specified targets. In another study, Wyer et al. (1998) demonstrated that intrinsic suppression is likely to occur in social contexts where there are strong social norms against stereotyping. Participants interacting with the aid-related poor target group may hold ambivalent attitudes towards this group: although they express favourable stereotypic beliefs about the developing-world poor, they simultaneously maintain negative beliefs that are not overtly expressed. It is possible that, unlike the case of Macrae et al.'s (1994) skinheads, strong prevailing social norms may have led participants to carefully keep suppressing and monitoring their stereotypic thinking so that rebound effects were not observed in the second essay in Experiment 1.

Personal norms may also lead participants to reject stereotypical thinking, and if so, their processing goal will be at variance with the application of previously activated stereotypes and stereotype application may not occur (Wyer et al., 2000). Elsewhere, Stroessner argues that rebound effects can be avoided by those participants who are motivated to control their thinking, to use controlled processing and to individuate the observed person (Stroessner, 1998, p. 223). Stereotype suppression is a form of control instigated by the perceiver to meet either personal needs, perhaps to individualise a target person to meet personal standards about how one should judge others, or the desire to meet prevailing social norms. Conforming to social norms is likely to be particularly important to undergraduate psychology students who are also very aware of stereotypes and their implications for judgment and behaviour.

Another possibility is that, due to characteristics of the target group, suppressors continued to suppress their stereotypical thinking throughout the experiment. The difference between the current experiment and Experiment 1 of Macrae et al. can be explained by the fact that people are more inclined to overtly stereotype outgroups such as skinheads than other target groups. It is likely that participants, especially psychology students, may consider it more acceptable to behave in an overtly prejudiced manner towards skinheads than towards people struggling with poverty in developing nations. It may be the case that a lack of explicit stereotypical thinking may account for a lack of rebound in the current Experiment 1. Participants are likely to monitor the production of stereotypical thoughts in situations where they are aware of its impact on the task at hand (situations like essay writing in Experiment 1). Thus one could argue that although there were no explicit instructions to continue suppressing stereotyped behaviour in the second essay social convention may have been responsible for the continued editing of output.

As rebound effects were not clearly seen in Experiment 1, a second experiment examined stereotype rebound in an alternative, behavioural arena. Experiment 2 was designed to explore whether rebound effects could be detected using an indirect measure of social distancing.

Experiment 2

Method

Participants and Design

Participants were 24 second and third year psychology students at Massey University, (21 women and 3 men) recruited from psychology lectures and tutorials. Students were allocated fifteen-minute time slots and visited the Psychology Laboratory individually. Participants were reimbursed $10 for their time and travel expenses. The design was a single factor (task instruction: stereotype suppression or control) between-subjects design.

Materials and Procedure

Experiment 2 was based upon the methodology used in Macrae et al.'s Experiment 2 into stereotype suppression and rebound. Participants attended the laboratory, were briefed and signed consent forms. As in Experiment 1, participants were all told that the experiment was an investigation of people's ability to construct life event details from visual information. They were then shown an A4-sized picture of a poor African person (see Appendix D). Participants were randomly assigned to experimental or control groups and asked to take five minutes to write a short essay describing a typical day of the person in the photograph. The experimental group was again asked to refrain from using stereotypical preconceptions in their writing. When participants had written their essays, the experimenter explained that an African student who came from a village similar to that depicted in the picture, was studying at the university and had agreed to meet with them. Each was then taken into an adjacent room where there was a row of eight empty seats; upon the eighth seat was a pile of belongings that an African student may have owned, texts, paper refills, a bright, colourful bag and jacket. The experimenter expressed surprise that the African student was not in the room and suggested that the participant take a seat for a minute or two until the student returned. The seat chosen by the participant was a measure of social distancing that was taken as an indication of the rebound effect. It was expected that, following a period of

suppression, members of the suppress group would experience higher levels of stereotypical thinking and distance themselves further from the supposed seat of the African student. The experimenter noted the seat chosen, debriefed the participant and the experiment ended.

Essays were again rated using a 9-point scale by two independent raters who estimated the stereotypical content of the essays. Raters were blind to experimental conditions and the purpose of the study. The level of agreement for essays in Experiment 2 was r (22) = .79, $p < .01$ (two-tailed). Scores were collapsed for raters and a single measure computed for stereotypical phrasing in the essay.

Results

Data from both the essay writing task and seating measures violated homogeneity of variance assumptions for ANOVA and were analyzed with two unequal variances independent samples t-tests. Results showed that suppressors complied with instructions and wrote passages of information with less stereotypical material ($M = 5.21$, $SD = 2.39$) than did nonsuppressors, ($M = 7.33$, $SD = 1.35$), t (17) = 2.68, $p = .016$, $\hat{g} = 1.06$. $\hat{g}$ is an effect-size measure developed by Hedges & Oklin (1985) that provides an unbiased estimate of effect size for small samples.

Eight seats lined the wall in this experiment. The belongings of the supposed African student were on the first seat and adjacent seats were numbered from 1-7. The first seat was adjacent to the belongings, so that the furthest seat was numbered 7. As the suppress group had appeared to successfully suppress their stereotypical thoughts when writing essays I expected that as in Macrae et al.'s experiment, a rebound effect might follow. Thus members of the suppress group might choose to seat themselves further away than did those of the control group from the apparent seat of the African student. An unequal variances independent samples t-test revealed a significant main effect for task instruction, t (17) = 2.83, $p = .011$, $\hat{g} = 1.06$. However, the suppress group sat closer to rather than farther away from the alleged seat of a target group member ($M = 4.50$,

SD = .80) than the control group (*M* = 5.25, *SD* = .45). Therefore, a 'reverse' rebound effect, significantly different behaviour compared to that of the control group, was evidenced in Experiment 2, but it was in a direction opposite to that found in Macrae et al. (1994).

Discussion

In Experiment 2, participants in the suppress group wrote essays with less-stereotypical content than those in the control group, and their seating positions showed a reverse rebound effect. The rebound effect was in the opposite direction to that predicted, as participants sat closer to, rather than further away from a supposed African person. These results suggest that it is possible that suppression leads people to act in a less prejudiced manner in a subsequent task. One simple explanation of participants' seating choices is that suppressors maintained their stereotype avoidant thinking for the duration of the experiment. Although possible, avoidant stereotypical thinking seems unlikely, as suppressors were unaware that seating choices were being recorded.

Instead, results from Experiment 2 indicate that rebound effects following suppression of stereotypes of the poor may be quite different from those of other stereotyped groups such as skinheads, African-Americans, and gay men. Although many studies have failed to find rebound effects for groups that perceivers prefer not to overtly stereotype (Hodson & Dovidio, 2001; Penn & Corrigan, 2002), none, to my knowledge, have reported a 'reverse' rebound effect where participants have responded in the opposite manner, sitting closer rather than farther away. The findings from Experiment 2 suggest that viewers' stereotypes of the poor may contain content that varies greatly from other social stereotypes that have been the subject of many rebound studies.

General Discussion

Because people hold different beliefs about different social outgroups (Cottrell & Neuberg, 2005), it follows that stereotype content should vary accordingly. Results from

Experiment 2 suggest that the content of participants' stereotypes of the poor not only differs from that of other stereotyped groups used in suppression research, but that stereotype content may play an important role in determining intergroup behaviour. In support of this, Glick and Fiske (2001) propose that stereotype content not only justifies the social roles of various social group members (Hoffman & Hurst, 1990), but also justifies and explains the social relations that exist between groups (e.g., Tajfel, 1981).

Suppressors in Experiment 2, compared to control participants, chose to occupy a seat that was closer to the alleged seat of the target group member. Although it was predicted that rebounded thoughts might impact perceivers' behaviour towards a stereotyped target, the seating position chosen by suppressors was in the opposite direction to that reported by Macrae et al. (1994). Suppressors' stereotypic behaviour may have been influenced by their evaluations of the stereotyped target (Macrae et al., 1994), suggesting that perceivers' stereotypes of the poor contain different content or evaluations from other stereotyped social groups used in suppression research. Many stereotypes of outgroups in suppression research are understood to be uniformly negative in their content: skinheads are believed to be angry, unintelligent, and violent, with few redeeming features. Negative stereotypic content also leads to the assumption that behaviour directed at an outgroup motivated by a stereotype will be avoidant.

However, as Dovidio and Gaertner (1986) and Fiske and colleagues (Fiske et al., 2002; 2007) point out, many common stereotypes are quite ambivalent in nature, combining both positive and negative elements. Uniformly negative stereotypes score low on both dimensions, including for USA raters, the homeless, welfare recipients, and drug addicts, but the majority of outgroups studied have mixed or ambivalent stereotype content, either high in warmth and low in competence or the reverse. Stereotypes of poor African people, derived from images and information in aid appeals, perhaps may contain reasonably high levels of warmth, displaying helpfulness and understanding, and low levels of competence, displaying lack of ambition, power, and capability, a combination that Fiske et al. describe as paternalistic (see Table 3). By contrast,

stereotypes of Macrae et al.'s skinheads probably possess a low competence - low warmth content profile.

It is important to note that Fiske, Cuddy, and Glick (2007) argue that different combinations of warmth and competence judgments drive different kinds of emotional and behavioural responses, not all of them avoidant in nature. Elements of warmth include friendliness, helpfulness, sincerity and trustworthiness (Fiske et al., 2007) and along with elements of competence may account for up to 75% of evaluative impressions that perceivers form of others (Wojciszke, 2005). Thus, warmth, measuring liking and trusting, is judged before competence, and determines approach/avoidance behaviour. In the case of paternalistic stereotypes the high warmth component encourages active facilitatory, helping behaviours; for viewers of aid advertisements, helping behaviours may encompass support, understanding and donations.

However, in addition to high warmth, paternalistic stereotypes contain judgments of low competence, attributions that have been associated with passive harm reflected as neglect. Discrimination against paternalistically stereotyped outgroups, including older or disabled people, typically has this profile, where members are liked but also often socially isolated and institutionalised. Unfortunately, low-status groups, such as the aid-related poor may be the recipients of benevolent concern that co-exists with a lack of respect (e.g., pity). In society, this combination maintains status differences between the two groups (Jost & Banaji, 1994) and thus may serve to perpetuate, rather than alleviate poverty, simply because perceivers may inadvertently view their attitudes towards the poor as benevolent.

Differences in stereotype content may also account for the fact that, unlike Macrae et al. (1994), stereotype rebound effects were not observed in suppressors' narrative essays. Monteith, Spicer and Tooman's (1998) research on stereotypical thinking about gay males by low- and high-prejudiced individuals provides support for such a contention. In addition to examining rebound using the essay procedure employed by Macrae et al., they also measured implicit activation of stereotype content using a memory recall task.

They found no evidence of rebound for either low- or high-prejudiced individuals using the explicit essay information although high-prejudiced participants demonstrated hyperaccessibility of stereotypical information when stereotypes were measured implicitly. Results from these experiments suggest that, for target groups that are generally unacceptable to stereotype, a rebound effect may be evidenced only in tasks that can tap implicit cognition, such as lexical decision tasks and Monteith et al.'s memory recall task; and it may not be reasonable to expect evidence of stereotype activation in an overt measure such as essay writing.

Results from Experiments 1 and 2 were in contrast to stereotype suppression studies where rebound effects have been observed (e.g., Wyer, Sherman, & Stroessner, 1998; Gordijn et al., 2004; Galinksy & Moskowitz, 2006). Wyer et al. (2000) suggest that when people's social stereotypes contain sensitive and controversial beliefs, such as those related to world poverty and starvation, participants are likely to regard stereotyping as undesirable. In contrast, participants in Macrae et al.'s study may have had little motivation to control the expression of stereotypic thoughts; participants may have had little or no compunction about stereotyping a skinhead and felt entitled to make related judgments. Most individuals appear to feel entitled to express stereotypes in response to socially unacceptable groups such as skinheads and criminals, but only a subset of these may be prepared to express stereotypes of some outgroups, such as those that are racially-defined. Accordingly, participants may have been reluctant to express their stereotypes of the African poor, and thus it was difficult to clearly measure rebound effects in suppressors.

Limitations

My aim in the two experiments described above was to see if stereotype rebound might occur for those who suppressed stereotypes of the aid-related poor. There were no apparent rebound effects in Experiment 1 and although there was an apparent 'reverse' rebound effect in Experiment 2, results should be interpreted with caution; sample sizes were small, and because findings in Experiment 2 have not been demonstrated

elsewhere, results may have been anomalous. In addition, effect sizes were also small, lending weight to this assertion. Characteristics of the participants are also important; psychology students are particularly likely to resist activating and applying stereotypes, and further research would benefit from using people from a wider range of occupations and age groups. However, findings of possible approach behaviour suggest that positively-evaluated stereotypic information could be dominant in people's stereotypes of the poor, a finding that could have important implications for viewers of aid advertisements. As negative information is generally thought to be dominant (Wojciszke, 2005; Skowronski & Carlston, 1989), an empirical finding that suggests that positive information may have a greater effect on stereotypic behaviour should be carefully considered. Therefore, follow-up studies are needed, primarily to replicate these effects and second, to further interrogate them.

Conclusions

Findings from these experiments indicate that participants, especially psychology students, may be motivated to control the application of activated stereotypes of the poor, particularly when strong social norms are salient. In addition, because some outgroups are generally unacceptable to overtly stereotype, images of these target group members may inhibit not only stereotype activation, in practiced participants, but also stereotype application. A target group that participants feel 'entitled' to stereotype, such as a skinhead or a wealthy person, may elicit stronger rebound effects than a target group that people prefer not to openly stereotype. Participants' controlled inhibition of stereotypical thinking might explain why rebound effects were not seen in the writing of the essays, but cannot not explain the rebound effect observed in Experiment 2, where participants were unaware of the goals of the seating exercise. Closer seating positions in Experiment 2 suggest that participants, having assumed that suppression periods and stereotypical writing exercises were complete, behaved in accordance with their stereotypes and thus hyperaccessible stereotypes primarily influenced suppressors' seating choices.

Closer (rather than further) seating positions chosen by the experimental group suggest that people's stereotypes of the developing-world poor are fundamentally different in content from those of other social outgroups usually studied in rebound experiments, skinheads and African-Americans. To explore these ideas, Experiment 3 was designed to measure rebound effects that occur when participants suppress their stereotypes of two target groups with distinctly different content: poor African and wealthy African people.

Chapter Four

Do Rebound Effects Vary for Outgroups that
Differ in Warmth and Competence?

This chapter describes an experiment designed to examine stereotype rebound effects in two dissimilar social outgroups: African poor and African wealthy target groups. Suppressors showed evidence of hyperacccesible stereotypes in the writing of their second narrative essay and seating positions chosen (an indication of stereotype rebound) were in opposite directions for poor and wealthy targets. Specifically, suppressors sat closer to poor targets and tended to choose seats farther from wealthy targets than did nonsuppressors. Results suggest that the content of perceivers' stereotypes influences rebound effects.

Results from Experiment 2 indicate that stereotype rebound effects, evidenced in behavioural measures, may occur for individuals who suppress stereotypes of the developing-world poor. However, unlike other research, (Macrae et al., 1994; Mooney, Cohn & Swift, 1992) rebound effects in Experiment 2, measured indirectly in terms of participants' seating choices, were approach rather than avoidance behaviour. In contrast to Macrae et al. (1994) who used a skinhead target group, stereotype suppressors responded to a developing-world poor target group by choosing closer seating positions than participants who did not suppress their stereotypes. In addition, whereas suppressors' second essays about skinheads demonstrated rebound effects in Macrae et al.'s experiments, suppressors second essays about the African poor in Experiment 1, did not. These findings, no apparent rebound effects in suppressors' essays and closer seating choices for suppressors, suggest that underlying differences in stereotype content

for the two different target groups may determine not only whether rebound follows stereotype suppression but also how rebound effects are expressed.

A review of the literature shows that stereotype rebound effects are often tested with target groups for which participants may feel entitled to express stereotypes (Gordijn et al., 2004; Dumont et al., 2003). In addition, more attention has been paid to moderators of stereotype rebound associated with the perceiver, such as self-salience (Macrae et al., 1998), motivation (Wyer, 2006; Plant & Devine, 1998), and practice effects (Moskowitz, Gollwitzer, Wasel, & Schaal, 1999) than to fundamental differences in perceivers' beliefs about target groups. Research results show that perceivers avoid activating stereotypes of outgroups such as women and the elderly (Moskowitz et al.; Kawakami et al., 2000). For example, Wyer et al. (1998) found when participants avoided using their stereotypes of African American targets (due to prevailing personal and social norms), no rebound effects were observed; however, social stereotypes were freely used by the same participants when target groups were unspecified (stereotyping was not avoided). Perceivers appear to be vigilant in monitoring stereotype use and may be reluctant to activate and apply stereotypes for specific social outgroups. Therefore characteristics of the target group, reflected in perceivers' stereotypes, may moderate the occurrence of stereotype rebound.

Since rebound effects can be conceptualised as heightened levels of stereotypical thinking, a more in-depth examination of stereotype content may shed some light on inconsistent rebound findings. Stereotype content comprises perceivers' beliefs and stored knowledge about others, and qualitative aspects of this information have been found to profoundly influence how people subsequently judge and respond to others (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Wilson, Lindsey, & Schooler, 2000). To date, research has focused more upon processes than on content in stereotyping and associated influences upon information processing (Leyens, Yzerbyt, & Schadron, 1992; Macrae & Bodenhausen, 2000), but both content and process aspects of stereotypes must be considered to fully understand stereotype function. The primary emphasis in research has been on social stereotypes that are harmful, negative and associated with biased judgments that underlie prejudice and discrimination. However,

consensual stereotypes of many social outgroups are seldom wholly negative, but instead contain a mixture of attributes that can be either positive or negative (Glick & Fiske, 2001). Indeed, Fiske (2004) claims that most stereotypes are ambivalent, containing a complex mixture of both hostile and favourable beliefs about others. Mixed content stereotypes may lead to different kinds of prejudice and discrimination than those stereotypes that are purely negative. Thus, this content difference may affect the way rebound is expressed.

Warmth and Competence

Recent work by Fiske, Cuddy, and Glick (2007) shows that many social stereotypes are differentiated in terms of warmth and competence. Asch (1946) argued that perceivers try to develop coherent impressions about other people and that they do this in a rapid manner with great ease. Judgments of others can lead to a "halo" effect, whereby positive or negative judgments of a subset of the target member's traits or behaviours can influence subsequent judgments and the evaluation becomes associated with the general impression. Asch showed that central traits such as "cold" or "warm" had the power to influence how other trait information was interpreted: for example, "warm" followed by "determined" might be seen as "persistent" whereas "cold" followed by "determined" might be seen as "stubborn". Similarly, Nisbett and Wilson (1977) found that initial positive or negative judgments formed upon observing certain behaviours are spread to other characteristics of the individual (even if the characteristics were irrelevant to the behaviour being observed). Therefore, although perceivers may change and adjust their theories or stereotypes about others, new information about central traits is likely to be more influential in changing one's theories about others than peripheral traits. Judgments of warmth, a central trait, might therefore underlie perceivers' unconscious positive or negative evaluations of target groups (Greenwald & Banaji, 1995) and the registration of affective information without conscious awareness (Murphy, Monahan, & Zajonc, 1995).

Judgments of warmth may also operate as an "emotional response category" (Niedenthal & Halberstadt, 2000); such categories allow perceivers to group together traits that evoke the same emotional response. Based on a *spreading activation* model (whereby activated information makes associated information more accessible), evaluative coherence is expected to simplify impression-making processes (e.g., Quinn, Hugenberg, & Bodenhausen, 2003; Dijksterhuis & van Knippenberg, 1998). Emotional valence and affective reactions (e.g., judgments of warmth and sincerity) are processed automatically upon interaction with the target person (Bargh, Chaiken, Govender, & Pratto, 1992; Fazio, Sanbonmatsu, Powell, & Kardes, 1986); it was argued by Zajonc (1980) that affective reactions can even occur prior to cognitive appraisals. Dijksterhuis and van Knippenberg (1998) contend that because stereotypes are highly functional in simplifying complex social environments, stereotypes that contain evaluatively consistent information are likely to be of more benefit to the perceiver.

Stereotypes associated with positive or negative judgments of target group members are important because they predispose perceivers to behave in a manner consistent with stereotypic judgments, even when evaluations are unintended (Bargh, 1999; Bargh, Chaiken, Raymond, & Hymes, 1996) and immediate (Ambady & Rosenthal, 1992). For example, participants have been shown to interview Caucasian and African-American job applicants differently (Word, Zanna, & Cooper, 1974). Bargh, Chen, and Burrows (1996, Experiment 2) primed stereotypes of the elderly in some of their participants with scrambled sentence tasks and found that those primed with this stereotype were more likely to walk slowly than the control participants and thus behave in line with stereotypic judgments of the elderly. Similarly, Dijksterhuis and van Knippenberg (1996) primed participants with stereotypes of professors or soccer hooligans and found they either behaved respectively more intelligently, answering more questions correctly, or unintelligently. Behavioural responses like those described above illustrate that when trait concepts that are part of the stereotype are activated, they lead to subsequent stereotype-consistent behaviours and provide evidence of a "direct, automatic link between perceptual and behavioral representations" (Chen & Bargh, 1997, p. 545). Specifically, positively evaluated stimuli have been found to lead to spontaneous

approach behaviours, while negatively evaluated stimuli elicit avoidance actions (Chen & Bargh, 1999; Duckworth, Bargh, Garcia, & Chaiken, 2002). Accordingly, perceivers who experience stereotype rebound, with increased cognitive accessibility of stereotypes following suppression, can be expected, in comparison with non-suppressors, to make judgments and practise approach or avoidance behaviour that directly reflects the content of their stereotypes. When target groups are judged differently in terms of high or low warmth, perceivers who suppress unwanted stereotypes may respond in different ways.

To explore the possibility of different rebound effects for different target groups, two social outgroups representing opposite ends of the economic spectrum in a developing country were chosen as target groups for this experiment: the poor and the wealthy. Consistent with predictions from the stereotype content model, it was expected that stereotypes of the two target groups, the developing-world poor and the African wealthy, would contain dimensions of either low warmth/high competence (African wealthy) or high warmth/low competence (African poor) and that such qualitative differences would determine whether or not rebound effects were observed and how rebound effects differed for each target group.

Three hypotheses were tested in this experiment. First, in line with results from earlier experiments it was predicted that participants who suppressed stereotypes of either target group, poor or wealthy males from the developing world, would experience increased cognitive accessibility of their stereotypes; a stereotype rebound effect. Participants were expected to show rebound effects in one or two ways: either as higher levels of stereotypical phrasing in second essays and/or as seating positions in relation to a large poster of a target group member. Essay writing was regarded as an explicit measure of rebound (i.e., a controlled cognitive process), while seating positions were seen as implicit measures of rebound (i.e., unconsciously determined behaviour).

Second, as described in the stereotype content model, it was predicted that rebound effects in seating positions for the poor condition, might reflect approach rather than

avoidance behaviour. In line with results from Experiment 2, participants whose
suppressed stereotypes of the developing-world poor appear to contain elements of
warmth, a primary driver of behaviour, were expected to choose seats closer to the
poster of a target group member than those chosen by the control group. Conversely, it
was expected that rebound effects in seating positions for the wealthy condition, might
reflect avoidance rather than approach behaviour, suppressors seating themselves further
away from the poster of a wealthy person.

Third, it was predicted that because it may be less acceptable to stereotype the aid-
related poor, participants would constrain the expression of these stereotypes, whereas
they would be more willing to express their stereotypes of the wealthy target group.
Specifically, participants were expected to write more stereotypical phrases when
writing about the wealthy than the poor.

Method

Participants and Design

Participants were 40 undergraduate students from Massey University, Auckland
campus. Since the psychology students who took part in the first two experiments did
not appear to make extensive use of stereotypes when writing essays, students from the
business school were also sought; business students have been found to use stereotypes
more readily than students from the social sciences (Guimond & Palmer, 1996).
Students were therefore recruited for the current experiment from both business and
psychology schools during lectures and tutorials. Each participant was required to attend
the laboratory for two sessions of twenty-five minutes each, a 'poor' condition and a
'wealthy' condition conducted approximately three or four weeks apart. Wealthy and
poor conditions were counter-balanced across participants: half were exposed to the
poor condition in their first visit and the wealthy on their second, while the other half
attended the wealthy condition first and the poor condition second. Students visited the
Psychology Laboratory individually and were reimbursed $15 for their time and travel
expenses.

Of the 40 participants who took part in the two experiments, only 35 provided a complete set of data. Two participants attended only one session, the poor, a further two did not choose a seat for either the poor or wealthy condition, and one chose a seat for the poor condition but not for the wealthy.

Materials

This experiment was based upon the methodology used by Macrae et al. (1994). In the poor condition students viewed pictures of poor African men featured in an impoverished environment (see Appendix H), while in the wealthy condition wealthy African men (see Appendix I) were featured in an African market. A graphic designer transposed the faces of the men so that the same face was used in both conditions, the face of the man in the first picture in the poor condition also featured as the first picture in the wealthy condition. A computer program written specifically for this experiment guided students though the experiment, allocated participants to groups, displayed images, timed the essays and automatically recorded these into numbered files.

A change was also made in the seating measure; instead of using the belongings of an African person, a large poster (45cm x 60cm) featuring either a poor or wealthy person in an African context was placed at the end of the row of eight chairs. While in Experiment 2, participants were asked to take a seat with the belongings of an African person in full view, ' prepare for contact', in Experiment 3 a subtle, less obvious measure was chosen because participants were required to attend the laboratory on two occasions for the two conditions. In this way, it was possible to derive a measure of intergroup behaviour without arousing suspicion. However, as results show, there was a real risk that a poster was a less effective mechanism for producing stereotype rebound than a potential meeting with a target member.

Procedure

Participants attended the laboratory on two occasions, either a poor or a wealthy condition. They were briefed on arrival and signed consent forms. On both occasions the suppress group only was instructed, via the computer, to refrain from using stereotypes when writing their essay, but received no such instruction before writing their second essays. Instructions for suppressors were the same as in Experiments 1 and 2. Each session required participants to view a picture of an African person and write a short five-minute essay on the computer describing a typical day in the life of the target person. A second picture was accompanied by the same instructions. When the two essays were completed, instructions on the computer directed each participant to go through to the waiting room, where there was a row of eight adjacent chairs, to take a seat, and fill out the checklist form while waiting for the experimenter. A large poster placed on the end wall adjacent to the seats featured either a poor or wealthy African person in an African setting. The seat chosen by the participant was a measure of social distancing that was taken as an indication of the rebound effect. It was predicted that, following a period of suppression, the suppress group would experience higher levels of stereotypical thinking in their second essays and/or distance themselves further from the poster. The experimenter noted the seat chosen, debriefed the participant and the experiment ended.

Essays were rated for their stereotypical content using a 9-point rating scale: 1 (not at all stereotypic) and 9 (very stereotypic) by two independent raters who were blind to the experimental conditions. The level of agreement for the two essays in the poor condition was r (39) = .68, $p < .01$ (two-tailed) and in the wealthy condition was r (37) = .56, $p < .01$ (two-tailed). Scores were collapsed for raters and a single measure computed for stereotypical phrasing for each essay.

Results

Stereotype rebound was assessed with two dependent measures: stereotypical phrasing in participants' second essays, and chosen seating positions. To investigate stereotype

rebound effects using the essay measure, data were subjected to a 2 (task instruction: suppress, control) x 2 (target: poor, wealthy) mixed factorial ANOVA with repeated measures on the last factor. Stereotype rebound was measured in suppressors' seating positions by conducting a 2 (task instruction: suppress, control) x 2 (target: poor, wealthy) mixed factorial ANOVA, again with repeated measures on the last factor.

Manipulation check

A preliminary analysis was run to ensure that participants in the suppress group had, as instructed, complied with instructions and suppressed stereotypical thoughts. A 2 (task instruction: suppress, control) x 2 (target: poor, wealthy) mixed factorial ANOVA conducted on the levels of stereotypical phrasing written in the first essays, did not show a main effect of task instruction or an interaction of target and task instruction (Fs<1). Simple effects analyses showed that there was also no difference for either the poor or wealthy target groups when analysed separately (both Fs <1). However, in the poor condition, an examination of the descriptive statistics (see Table 4) showed that, as instructed, the suppress group did use less stereotypical material in their writing than the control group ($M = 5.92$, $SD = 1.71$ vs. $M = 6.26$, $SD = 1.46$). Unexpectedly, in the wealthy condition, the suppress group wrote slightly higher levels of stereotypical phrasing in their first essays than the control group ($M = 4.97$, $SD = 1.40$ vs. $M = 4.84$, $SD = 1.34$). A main effect of target was found ($F (1,36) = 8.72$, $p < .006$, $\eta_p^2 = .20$, $OP = .82$): essays about the poor target contained more stereotypical material than those about the wealthy.

Rebound Effects in Essays

Results from the mixed factorial ANOVA conducted on participants' second essays for both poor and wealthy conditions revealed a main effect of target ($F (1,36) = 25.33$, $p < .001$, $\eta_p^2 = .41$, $OP = 1.00$) - the essays of the poor contained more stereotypical material than those about the wealthy targets (Ms $= 6.09$ vs. 4.75, SDs $= .93$ vs. 1.56). This main effect was qualified by a significant target x instruction interaction ($F (1,36) = 6.58$, $p = $

.015, $\eta_p^2 = .16$, *OP* = .70). Simple effects analyses revealed opposing non-significant trends for the two target conditions; when writing about the poor, suppressors wrote less stereotypical essays than the controls (*F* (1,36) = 2.89, *p* = .098, $\eta_p^2 = .07$, *OP* = .38) while the opposite was the case for wealthy targets *(F* (1,36) = 3.10, *p* = .08, $\eta_p^2 = .08$, *OP* = .40). Thus, the essay data suggest that rebound may have occurred for both target groups although the nature of the rebound differed for the two groups. Whereas the wealthy target may have elicited standard rebound, with greater stereotyping by suppressors than controls, the poor target may have elicited lower levels of stereotyping in suppressors.

Table 4

Mean Ratings of Passage Stereotypicality for Poor and Wealthy Essays as a Function of Task Instruction

	Poor Target		Wealthy Target	
Essays	Suppress Instructions	Standard Instructions	Suppress Instructions	Standard Instructions
1	5.92 (1.71)*	6.26 (1.46)	4.97 (1.40)	4.84 (1.34)
2	5.84 (0.94)	6.34 (0.87)	5.18 (1.59)	4.32 (1.45)

*Standard deviations are in brackets

Rebound Effects in Seating

Dependent measures were suppressors' second essays and/or seating positions chosen by suppressors when responding to either poor or wealthy target people. It is possible that suppressors may have continued to suppress their stereotypes in their second essays, and if so, rebound effects might emerge in the seating positions. A second mixed factorial ANOVA was therefore conducted using participants' seating positions. The analysis revealed a main effect of target (*F* (1,32) = 5.88, *p* = .021, $\eta_p^2 = .16$, *OP* = .65): overall, participants sat closer to the poster of the poor target than the wealthy target (*Ms* = 5.18 vs. 5.59, *SDs* = 1.14 vs. 1.05). This main effect was qualified by a target x instruction interaction (*F* (1,32) = 7.26, *p* = .011, $\eta_p^2 = .19$, *OP* = .74). Simple effects

analyses revealed a non-significant trend for the poor target suppressors to sit closer to the target poster than the controls (F (1,36) = 3.11, p = .087, η_p^2 = .09, OP = .40) (see Table 5). While the descriptive statistics showed that suppressors of the wealthy target sat farther away from the poster than controls (Ms = 5.80 vs. 5.42, SDs = .86 vs. 1.17) this pattern did not reach significance (F (1,36) = 1.10, p = .302, η_p^2 = .03, OP = .17). Thus, the seating data show that reverse rebound occurred for the poor target condition while no rebound occurred for wealthy target condition.

Table 5

Seating Positions as a Function of Task Instruction for Poor and Wealthy Conditions

	Poor Target		Wealthy Target	
	Suppress Instructions	Standard Instructions	Suppress Instructions	Standard Instructions
Seat	4.80 (1.21)*	5.47 (1.02)	5.80 (0.86)	5.42 (1.17)

Standard deviations are in brackets

Ratings of Warmth and Competence

As in Experiment 1, a post-hoc content analysis was conducted of essays, first and second, for the poor and wealthy African target groups. Each essay was scored between 0-5 for each of the two dimensions (high and low levels of warmth and competence). Scoring was based on pre-selected descriptive phrases; one point was allocated for each descriptive phrase that appeared in the essay (see Appendix G). Means of warmth and competence for the essays were obtained by subtracting the means of low warmth and low competence from the means of high warmth and high competence. Two 2 (task instruction: suppress, control) x 2 (target: poor, wealthy) mixed factorial ANOVAs, with repeated measures on the last factor, were conducted on warmth and competence ratings for participants' second essays.

As predicted, the ANOVA conducted on ratings of warmth showed a significant main effect of target (F (1,36) = 4.35, p < .044, η_p^2 = .11, OP = .53); warmth ratings were

higher for the poor African than the wealthy African target group ($M = .66$, $SD = .85$ vs. $M = .26$, $SD = .86$). Although the target x instruction interaction was not significant (F (1,36) = 1.568, $p < .219$, $\eta_p^2 = .04$, $OP = .23$), descriptive statistics showed that, when writing about the African poor, the experimental group wrote more warmth-related phrases in their second essay than the control group ($M = .74$, $SD = .81$ vs. $M = .58$, $SD = .90$). In contrast, when writing about the African wealthy, the experimental group wrote *fewer* warmth-related phrases in their second essay than the control group ($M = .11$, $SD = .99$ vs. $M = .42$, $SD = .69$) (see Table 6).

An ANOVA conducted on ratings on competence also revealed a significant main effect of target (F (1,36) = 34.209, $p < .001$, $\eta_p^2 = .49$, $OP = 1.00$); there were more competence-related phrases in essays about the African wealthy than there were in essays about the African poor target group ($M = 1.53$, $SD = 1.29$ vs. $M = -.39$, $SD = 1.73$). Again the interaction between target and instruction was not significant (F (1,36) = .777, $p < .384$, $\eta_p^2 = .02$, $OP = .14$). However, when writing their second essays about the African poor, the experimental group wrote fewer competence-related phrases than the control group ($M = -.58$, $SD = 1.68$ vs. $M = -.21$, $SD = 1.81$). Second essays about the African wealthy showed a different pattern of results; the experimental group wrote *higher* levels of competence-based phrases than the control group ($M = 1.63$, $SD = 1.50$ vs. $M = 1.42$, $SD = 1.07$) (see Table 6).

Table 6

Mean Ratings of Warmth and Competence in Second Essays about the African Poor and African Wealthy

	Warmth		Competence	
	African Poor	African Wealthy	African Poor	African Wealthy
Control	.58 (.90)*	.42 (.69)	-.21 (1.81)	1.42 (1.07)
Suppress	.74 (.81)	.11 (.99)	-.58 (1.68)	1.63 (1.50)

Standard deviations are in brackets.

Higher scores indicate higher levels of warmth/competence in essays

Discussion

The aim of the current study was to examine stereotype rebound effects for two different target groups. An important goal was to clarify findings of an earlier experiment where rebound effects were observed for perceivers in an unexpected direction, a reverse rebound effect. In the current experiment, participants were asked to interact on two occasions with members of target groups at opposite ends of the economic scale, poor and wealthy African people. In general, stereotype rebound is tested for target groups that perceivers may view negatively, and rebound behaviours reflect this (e.g., Macrae et al., 1994). Accordingly, the current study was designed to compare rebound results for two different target groups.

Findings from the current experiment suggest that, as predicted, stereotype rebound effects may differ for dissimilar target groups. The current experiment found that although suppress and control groups did not differ significantly in terms of stereotypic content used in their first essays for the two different target groups, they wrote different levels of stereotypic material in their second essays and exhibited different patterns of social distancing behaviours. Contrary to expectations, participants stereotyped wealthy targets less than poor targets.

Stereotypicality of First Essay

Suppressors who viewed pictures of the poor wrote less stereotypical information than the control group in their first essays, as instructed, but the difference was not statistically significant. In contrast, suppressors who viewed pictures of wealthy African targets produced higher levels of stereotypical information in their essays than the control group; again this was not statistically significant. One reason for this unexpected finding might be that participants do not have a detailed, pre-computed stereotype of wealthy African people and it is possible that they constructed a stereotype based upon expectations that one was required (Hastie & Park, 1986). Recent research lends support to a mixed model of stereotyping where perceivers' stereotypes are based on prototypes (possessing features that are typical of category members) and exemplars

(representations of specific category members encountered over time). The African wealthy target group unlike the aid-related poor target group may not be seen as high in entitativity (i.e., perceived 'groupiness'); if so, perceivers may see the African wealthy target group as less homogenous (Dasgupta, Banaji, & Abelson, 1999), and be less likely to develop a consistent impression of this target group (Welbourne, 1999).

If perceivers have not regularly encountered wealthy African people and encoded and integrated relevant information, it is possible that a detailed schematic representation of the target has not been developed and stored in memory, and therefore is not available to be used in later judgments. Suppressors may have deliberately searched out stereotypic content associated with wealthy Africans, simply because they had little in the way of a consistent core set of traits in memory that could constitute a stereotype of the African wealthy target group. Thus control participants are less likely to have been thinking stereotypically about the wealthy target than the suppressors. Suppressors, on the other hand, may have deliberately worked out ways in which the wealthy target could be thought of stereotypically before 'toning down' that thinking as instructed. However even with 'toning down' they wrote slightly more stereotypical essays than controls (although not significantly so).

Contrary to predictions, stereotyping was lower overall when participants were writing about the wealthy than about the African poor. One explanation for this, as noted above, could be that wealthy African people do not fit into a clearly defined cognitive category. Unlike cognitive categories which are assumed to "have the same basic structural properties and to influence information processing in the same way" (Hamilton & Trolier, 1986, p. 152), stereotypes of different social outgroups are not all the same; they may consist of stronger and weaker associations between traits and category representations (Monteith & Voils, 2001). For example, stereotypes of African Americans or women may be more strongly entrenched in perceivers' memory and thus more accessible than stereotypes of social groups such as lawyers or priests. Because category accessibility is enhanced by recent and frequent activation (e.g., Higgins,

Bargh, & Lombardi, 1985; Srull & Wyer, 1979), stereotypes of the aid-related poor may be more easily activated or primed than stereotypes of the African wealthy.

Decades of research have shown that stereotypes, or any mental constructs, activated for a particular task are likely to be more accessible, and therefore more likely to be used in subsequent tasks (Higgins & King, 1981; Higgins, Rholes, & Jones, 1977). The increased accessibility of stereotypical material following recent and frequent activation of the construct is based on the synapse model (Higgins & King, 1981). In this model, the energy levels of synapses are thought to decay slowly over time after activation, but decay is much slower for more frequently and recently activated constructs than for constructs that have been activated only once. Based on this theory, perceivers' stereotypes of the developing-world poor are predicted to have increased accessibility and very easily 'spring to mind' for participants. Thus, differences in levels of stereotyping for the two different target groups can also be explained in terms of stereotype accessibility.

In contrast, participants' stereotypes of African wealthy people are not so well developed, are less accessible and may not be so easily retrieved during the experiment (Stangor & Ruble, 1989). According to the associative network model, mental representations such as stereotypes are networks of nodes connected to each other by links that vary in strength (Collins & Loftus, 1975; Rumelhart, Hinton, & McClelland, 1986). Activation levels across nodes vary, but generally, the more frequently nodes are activated, the more likely they are to respond to stimuli, to be recalled in memory and to be applied in social interaction. Stereotypes of the poor, fuelled by television presentations, tend to be more frequently activated; they are more often triggered by media cues and thus more accessible in memory than perceivers' less developed stereotypes of the developing-world wealthy. Therefore, although I expected participants to more freely express their stereotypes of the wealthy target group, lower levels of stereotypic phrasing (in all four cells) in narrative essays about the African wealthy compared to the African poor, may be explained, in part, by the cognitive processes described above.

Rebound Effects in Essays

In their second essays suppressors in both wealthy and poor conditions showed different patterns of stereotyping than did control participants. In the poor condition, suppressors writing their second essays tended to stereotype less, instead of more, than the control group and appeared to be less stereotypical than in their first essay. Lower levels of stereotyping in the second essays about the African poor target group also were found in Experiment 1 and may have occurred because suppressors continued suppressing their stereotypes throughout the experiment (also see Liberman & Forster, 2000). In contrast, suppressors in the wealthy condition, tended to write higher levels of stereotypic material than the control group and higher levels in their second essays compared to their first, suggesting that stereotype content may determine whether or not stereotypes are expressed in the laboratory. Because suppressors in the wealthy condition tended to be more stereotypical in their second essay than in their first, a standard rebound effect may have occurred.

As noted earlier, it is possible that stereotypic information for the wealthy African target group is constructed on line (Hastie & Park, 1986) in response to experimental demands. Participants' construction of a wealthy stereotype on-line may also explain why the suppress group tended to write more stereotypic information in both essays than the control group, and possibly why the suppress group appeared to be more stereotypical in the writing of their second essay than the control group. In contrast, stereotypes of the poor may be more accessible due to chronic activation following exposure to media; accessible categories may allow perceivers to construct a "fuller reality than the actual stimulus may have suggested by itself" (Moskowitz, 2005, p. 387). Perceivers' stereotypes of the poor, reinforced by consistent media presentations, are likely to abound with beliefs, expectations and causal explanations (Kunda, 1999). Moreover, stereotypes of the poor will also contain an in-depth, more complex mix of interrelated information, beliefs and expectations, derived from media presentations of "sacks of food aid, of crowds of the starving, of doctors tending the sick, of children being fed, of men carrying the dead…." (Moeller, 1999, p. 150).

Stereotypes of the developing-world poor are also likely to contain information related to social power and status, or need and poverty. Schneider (2004) argues that stereotypes of social groups that have low power and status are often the "strongest and most pernicious" stereotypes in social interaction (p. 369). Powerful people or groups can control the outcomes of others; power may affect information processing by leading high status perceivers to persistently ignore individuating information (Fiske & Depret, 1996), and use dispositional rather than situational attributions to explain the behaviour of lower status individuals (Guinote, 2007). Power relationships are also likely to be more salient in perceivers' stereotypes of the poor than in stereotypes of the wealthy, with perceivers making aid-related judgments and decisions and this having some control over outcomes for the aid-related poor.

In summary, suppressors may have demonstrated a rebound effect, writing higher levels of stereotypical material than the control group in their second essays for the wealthy target group. As predicted, suppressors in both conditions tended to write different levels of stereotypic phrasing in their second essays; in the wealthy condition suppressors were more likely to be more stereotypical in their writing than controls, possibly a standard rebound effect, while in the poor condition, suppressors were likely to be less stereotypical. As noted in Experiment 1, it seems likely that suppressors continue to control the expression of their stereotypes throughout both essays in response to normative constraints and thus, rebound effects may be difficult to capture using explicit measures (e.g., Hall & Crisp, 2003; Galinksy & Moskowitz, 2000, Experiment 1).

Rebound Effects in Seating

Stereotype rebound effects were also assessed in the current study by observing in participants' chosen seating positions their distance from large posters of a target group member. Analyses showed that differences may exist between suppress and control groups in their responses to dissimilar social outgroups. The expected interaction between instruction and target group did occur, with suppressors tending, as they had in

Experiment 2, to seat themselves closer than the control group to the poster of a poor person. Not surprisingly, seating choices did not differ significantly between suppress and control groups in relation to the wealthy poster; as discussed above, stereotypes of African wealthy people appear to have weaker associations than stereotypes of the poor with trait attributions and evaluations.

Seating choices for the two target groups can be understood in terms of the idea that suppressors' stereotypes of poor and wealthy people consist of opposing dimensions of content, thus providing further support for the hypothesis that stereotypes differ in content and that rebound effects may vary accordingly. Suppression appears to exaggerate stereotype-driven behaviour, but the form of that behaviour is dependent upon the content of the stereotype activated: in some situations the behaviour will be increasingly negative in nature, in others, more positive. Systematic differences in perceivers' stereotypes may shed light upon some of the inconsistent rebound findings in the literature and explain why rebound effects are not always evident following stereotype suppression.

The post-hoc analysis of essays of warmth and competence provides further support for the idea that stereotype content may influence behaviour. Not only did essays vary predictably in warmth judgments for African poor and the African wealthy (with higher levels of warmth allocated to the poor than the wealthy) but, based on an inspection of the descriptive statistics, there is some suggestion that the process of suppression itself appeared to have some effect upon judgments of warmth and competence. In their second essays, where rebound effects might have been expected to appear, suppressors were more likely than nonsuppressors to make high warmth judgments when writing about the African poor. Similarly, suppressors compared to nonsuppressors, tended to use fewer warmth-related phrases in their second essays when writing about the African wealthy. The ambivalent nature of people's stereotypes of the poor was also seen in perceivers' judgments of competence for the two target groups. Judgments of competence were higher overall for the wealthy African than for the poor African target group, and once again suppression processes appeared to affect judgments. The suppress

group tended to make fewer judgments of low competence in their second essays than the control group when writing abut the African poor, while the opposite pattern of results occurred for the African wealthy target group (i.e., the suppress group were more likely than the control group to make more judgments of high competence in their second essays). Unfortunately, these intriguing patterns were not borne out by the ANOVA analyses. While it is heartening that all of the descriptive statistics are consistent with the prediction that suppression affects levels of stereotypic phrasing in essays (relative to controls) the lack of statistically significant differences indicates that in this experiment no hard and fast conclusions can be drawn. Nevertheless, these results suggest that it is worth exploring these ideas with future studies with greater statistical power, perhaps employing more sensitive measures of stereotypical phrasing and larger sample sizes.

If warmth is primary and determines approach/avoidance behaviour, as Fiske et al. (2007) argue, then stereotypes of high warmth may elicit different patterns of behaviours from perceivers than do stereotypes of low warmth. Past research has shown that stereotypes can lead perceivers to avoid associations with disliked others (Swim, Ferguson, & Hyers, 1999) and to engage in interpersonal distancing behaviours (Bessenoff & Sherman, 2000; Crosby, Bromley, & Saxe, 1980; Macrae et al., 1994). In society, such behaviours can be seen in exclusionary practices of institutional distancing in areas of education, health care, and housing (Lott, 2002). Across two studies, results seem to support the notion that stereotype rebound effects may be different for dissimilar social outgroups. Findings suggest that there are systematic differences in stereotype content for the two target groups examined: means of stereotypical phrasing were higher for the poor, and lower for the wealthy. These results lend further support to Fiske et al.'s claim that "not all stereotypes are alike" (Fiske et al., 2002, p. 878); further research should examine the role of stereotype content, particularly in terms of warmth and competence, in stereotype rebound.

Limitations

Although these experiments have demonstrated some effect of suppressed stereotypical thoughts upon behaviour, some theoretical and methodological issues may have compromised results. In the current experiment, suppressors' second essays about the poor again showed evidence of reduced levels of stereotyping just as in Experiment 1. Because essay-writing exercises were used to measure rebound, participants were not under time pressure and may have had sufficient cognitive resources to initiate and maintain successful suppression (Wyer, Sherman, & Stroessner, 2000).

Wenzlaff and Wegner (2000) question the reliability of using self-reports in thought suppression research, suggesting that heightened self-consciousness and defence mechanisms in participants can make suppression-related effects hard to detect. They suggest that researchers use objective behavioural indices that more directly reflect target-relevant thoughts, such as behavioural indices and physiological states. Indeed, more recent studies have found suppression-related rebound effects using physiological indices such as blood glucose (Gailliot & Baumeister, 2007), lymphocyte levels (Petrie, Booth, & Pennebaker, 1998) and appetite (Erskine, 2007). One way to better identify stereotype rebound effects may be to use automatic cognitive indices; these measures are presented outside participants' awareness and measure cognitive processes that occur before participants can establish conscious contol over a response (e.g., sentence unscrambling, word completion, recall priority). Implicit cognitions and behaviours usually occur without participant awareness, control or intent and mirror the distinction that exists in social cognition between implicit and explicit cognition (Greenwald & Banaji, 1995). In contrast to controlled strategies that are mostly conscious, effortful and resource consuming, automatic cognitive processes are generally not affected by cognitive load.

Across the first three experiments in this thesis, rebound effects were more reliably seen in implicit measures of participants' seating choice than in explicit measures of essay writing where participants were directly asked to report their thoughts. In addition, as

found in our research, results of implicit and explicit measures are not always highly correlated (Fazio et al. 1995; Kawakami & Dovidio, 2001). This particular limitation is addressed in Experiment 4, in the next chapter, where an implicit measure of stereotype activation, the primed Stroop task, was employed to assess stereotype activation in participants, particularly for suppressors.

Conclusions

First, stereotypes of the two target groups used in the current experiments were predicted to be either low or high in warmth. Behavioural measures of seating for each of these two target groups tended to be divergent, suggesting that stereotype content may be a powerful determinant of rebound. Further experiments should provide a better understanding of the actual content of people's stereotypes of the developing-world poor, in terms of warm and not warm components. Second, although results suggest that participants have activated stereotypes, and suppress groups typically report lower levels of stereotyping in their first essays than do control groups, suppressors did not write significantly different levels of stereotypic material in their first essays compared to the control group. It is possible that some individuals do not activate stereotypes in response to some target group members (Lepore & Brown, 1997), and also that other individuals activate a wide range of information, that can be more or less stereotypic in content (Locke, MacLeod, & Walker, 1994).

Many studies have failed to find evidence of stereotype activation when targets are members of social groups that people prefer not to be seen stereotyping, such as the elderly or African-Americans and rebound effects are not always observed for these target groups (Monteith, Spicer, & Tooman, 1998). Because suppressors did not write significantly different levels of stereotypic material from controls in two essays in Experiment 1 and in the first essays of Experiment 3, it is possible that perceivers 1) do not activate stereotypes at all; 2) activate and successfully suppress stereotypes in a practised automatic manner; or 3) activate stereotypes that are weak, not well-developed, and infrequently used (i.e., differential activation). Consequently, further

research is needed to identify stereotype activation in perceivers who respond to images of the developing-world poor.

Chapter Five

Do Suppressed Stereotypes Become Hyperaccessible?

Stereotype rebound, or the increased accessibility for suppressed stereotypes, is not always observed in empirical studies. It is possible that rebound does not occur because participants do not always activate stereotypes of the target group or are able to successfully suppress stereotypes in an automatic manner. This chapter describes an experiment designed to measure stereotype activation. A primed Stroop task was used to record response time latencies for participants previously asked to suppress their stereotypes while writing about a poor African person. Participants were asked to name the colour of stereotype-consistent and stereotype-inconsistent trait words that were either positive or negative in valence and preceded by two social category primes.

Results from the three previous experiments show that when the African poor are used as targets in rebound experiments, rebound effects are not always observed: indeed, reverse rebound may occur. These findings raise the question of whether participants' stereotypes of the African poor target group are indeed activated at all. According to a model in Devine (1989), there are two stages of stereotyping: stereotype activation and stereotype application. These two processes are predicted to distinguish between "knowledge of a cultural stereotype and acceptance or endorsement of the stereotype" (Devine, 1989, p. 5) and correspond to automatic (activation) and controlled (application) cognitive processes. While automatic stereotypic responses occur unconsciously and efficiently, many self-regulatory strategies, such as suppression, involve intentional, cognitively draining processes (e.g., Fiske & Neuberg, 1990;

Wegner, 1994). However, researchers have shown that even at an automatic level, some perceivers may be able to control their responses and inhibit stereotype activation; although some perceivers automatically activate stereotypes in response to target members or environmental cues (Banaji, Hardin, & Rothman, 1993; Pratto & Bargh, 1991), others do not (Lepore & Brown, 1997; Devine, Plant, Amodio, Harman-Jones, & Vance, 2002). It is possible therefore, that without clear evidence of direct cognitive inhibition (e.g., Neill, Valdes, & Terry, 1995), an absence of stereotype rebound effects in some empirical studies may simply reflect differential levels of stereotype activation (weak or strong associations) in perceivers (Dalgleish, Mathews & Wood, 1999; Locke, MacLeod, & Walker, 1994).

Stereotype Activation

As noted in the survey of the literature in Chapter 2, rebound effects have not always been consistently observed across a range of suppression studies, suggesting that perceivers either did not activate stereotypes to begin with (Blair, 2001) or alternatively, activated stereotypes and controlled stereotype application throughout the experimental period (Gollwitzer & Moskowitz, 1996). Consciously controlling the application of automatically activated stereotypes may be a viable strategy for perceivers interacting with target groups that are not acceptable to stereotype (e.g., Devine & Monteith, 1999), and in some contexts, participants who are motivated to avoid stereotyping such groups may also have sufficient cognitive resources to do so (Kawakami, Young, & Dovidio, 2002). Another possibility is that participants who are practised at suppression may be able to control the application of activated stereotypes in an efficient, automatic manner (Sinclair, Lowery, Hardin, & Colangelo, 2005). According to the ironic process theory, stereotype rebound effects occur for perceivers who engage in suppression attempts using a systematic controlled processing strategy to override automatic stereotype activation (Gordijn et al., 2004). Perceivers who are not practised in suppression and unable to successfully control stereotypic thinking in an unconscious manner (Moskowitz et al., 1999; Glaser & Kihlstrom, 2005) will require adequate cognitive

resources to maintain successful suppression; any shortfall or interruption in resources is likely to result in rebound effects.

Stereotype Activation in Experiments

Empirical studies into stereotype suppression may regard automatic stereotype activation as an unconditionally automatic mental process, expecting both suppressors and control groups equally to activate relevant stereotypes following exposure to a target group member. However, rebound cannot occur if members of either of these two groups fail to activate stereotypes, or activate and successfully control stereotype application. Specifically, if control participants either do not activate stereotypes to begin with, or successfully suppress the expression of their stereotypes, then they will show lower levels of stereotypical thinking in suppression measures. Since rebound is operationalised as a positive difference in stereotypicality favouring the suppression group, it cannot be detected if controls do not activate or successfully suppress their stereotypes. One possible exception might be when suppression instructions cause additional inhibition or suppression over and above the 'spontaneous' suppression that sometimes occurs in control groups. Therefore, it is important to establish evidence of stereotype activation in order to track, from the beginning, the sequence of cognitive events that leads to stereotype rebound.

Implicit Measures of Stereotyping

Many social stereotypes are activated automatically, cued by subtle impressions of others (Uleman, Blader, & Todorov, 2005) and salient attributes of category members (Banaji & Dasgupta, 1998). Implicit stereotypes, unlike their explicit counterparts, are not determined by what is consciously accessible in memory; instead, perceivers' theories about others may extend beyond what is consciously known and often incorporate fleeting, forgotten and unidentifiable parcels of information. Because implicit stereotypes do not exist in the conscious domain, perceivers are also unable to directly report their contents (Banaji & Greenwald, 1994; Greenwald & Banaji, 1995).

Automatically activated stereotypes are therefore best assessed using unobtrusive measures that do not reference the stereotype directly; instead, implicit measures of stereotyping ask participants to focus on performing a task that indirectly reveals the relationship between an underlying construct and its associations. Thus, implicit measures record information that is often unknown to the perceiver and resides outside conscious awareness. In contrast, explicit measures of stereotyping, such as essay-writing or questionnaires, may prompt perceivers to use self-presentational strategies and manage their responses in order to meet social and normative standards (Sechrist & Stangor, 2001). Indeed, the literature shows that results from implicit and explicit measures are not highly correlated (Fazio, Jackson, Dunton, & Williams, 1995; Greenwald et al., 1998).

Some empirical studies have found that although stereotype rebound effects have not been observed using explicit measures, implicit measures such as word recognition or lexical decision tasks show that stereotypes have been activated (Galinsky & Moskowitz, 2000; Monteith, Spicer, & Tooman, 1998). For example, Galinsky and Moskowitz (2000, Experiment 1) found that although stereotype suppressors controlled the expression of stereotypic content in their narrative essays, they were faster to respond to stereotype consistent words in a subsequent lexical decision task, showing that some suppressors did indeed experience hyperaccessibility for their unwanted stereotypes. Reaction time procedures that have apparently little relevance to stereotypes or suppression, including lexical decision tasks and response latency measures, enable researchers to track genuine stereotype rebound effects (e.g., Kawakami, Dion, & Dovidio, 1999). One of the more recent techniques, borrowed from cognitive psychology to assess stereotype activation and the content of stereotypic representations, is priming.

Priming and Automaticity

Implicit cognition measures are based upon the premise that presenting one concept makes it easier to process related concepts (Higgins, Rholes, & Jones, 1977). Priming

effects are observed when primed categories lead to related judgments, both semantically (e.g., Higgins, Rholes, & Jones, 1977; Bargh & Pietromonaco, 1982) and evaluatively (e.g., Greenwald, Klinger, & Liu, 1989; Pratto & Bargh, 1991; Fazio et al., 1995). According to the theory of spreading activation (e.g., Collins & Loftus, 1975; Posner & Synder, 1975), when two concepts consistently co-occur they develop a stronger association, so that when one concept is triggered, information associated with it, such as a stereotype, also attains a heightened state of accessibility. Thus primes such as African poor are expected to elicit faster response times for the word 'deserving', than they are for stereotype-inconsistent words such as 'masterful' and this occurs for most people (Devine, 1989, Experiment 2). Category primes of social groups such as the elderly and skinheads have been shown to automatically activate attitudes (Fazio, Jackson, Dunton, & Williams, 1995; Greenwald, McGhee, & Schwartz, 1998; Kawakami, Dovidio, & Dijksterhuis, 2003) and also behaviour associated with category members (Bargh et al., 1996; Dijksterhuis & van Knippenberg, 1998). In other words, some perceivers have shown that behaviours and traits related to the prime, whether a group member or word, are more likely to come to mind and trigger appropriate responses (Moskowitz et al., 1999; Wittenbrink, Judd, & Park, 1997). Stereotypes act like other semantically related concepts; research using response latency procedures has observed automatic stereotype activation for social groups such as African Americans (Kawakami, Dion, & Dovidio, 1998), women (Blair & Banaji, 1996), elderly people (Perdue & Gurtman, 1990) and skinheads (Kawakami, Dovidio, Moll, Hermsen, & Russin, 2000). In the studies cited above, automatic associations are regarded as implicit indicators of associative strengths and thus, stereotypical knowledge.

The Primed Stroop Task

Priming methodologies are based upon the premise that category primes activate concepts associated with the category and thus elicit automatic stereotype activation (Lepore & Brown, 1997). Implicit measures may record the speed with which people automatically activate words associated with the primed stimulus; when response times are faster following exposure to primes, priming is regarded as facilitatory. An extension

of the priming methodology is the primed Stroop task (Segal, Gemar, Truchon, Guirguis, & Horowitz, 1995) based on the Stroop effect (Stroop, 1935). In contrast to facilitatory priming techniques, the Stroop task is an interference task causing participants to produce slower reaction times due to interference. The interference or Stroop effect occurs when participants are required to name the ink colours of words; if the words are printed in contrasting colours, if for instance the word red is printed in green, participants must ignore the meaning of the word and focus instead upon the colour. Participants are slower to name the colour of mismatched attributes than to name the colour of matched attributes, where the word green is printed in green. Interference is thought to occur because processing speeds are different for colour-naming and reading, and thus people are quicker to identify words than they are to name colours (Cattell, 1885/1947). MacLeod (1991) also suggests that words are read automatically, thus requiring less or no attention and resources, while colour-naming tasks are less practised and require more attention and cognitive effort. The relative processing speeds for these two tasks therefore have different cognitive requirements that differentiate automatic and controlled processes (Shiffrin & Schneider, 1977).

Automatic stereotype activation is expected to encompass theoretical qualities of automaticity, that is, taking place in an unintentional, efficient manner and without perceivers' awareness (Bargh, 1999). Bargh and Pratto (1986) used response latency measures to show that accessible social constructs are preferentially activated by individuals and thus show a long-term perceptual and efficient readiness. Similarly, Kawakami, Dion, and Dovidio (1999) used the primed Stroop test to demonstrate the unintentional stereotype activation of participants' stereotypes of African American and White individuals. In the primed Stroop task (Segal et al., 1995) participants are presented first with a prime word, which they are asked to ignore, and second with a target word in one of a number of colours. Participants are instructed to identify the colour of the word presented on the screen as fast and as accurately as possible, but due to the activation of the word's semantic meaning, that drains cognitive resources, are expected to be slow in naming the colour of the second word. When participants experience automatic stereotype activation, they will find it increasingly difficult to

ignore the semantic meaning of the second, target word and thus experience greater interference (Richeson & Shelton, 2003) and consequently, longer colour-naming times (Stewart, Hall, Wilkie, & Birch, 2002). Thus, participants' response latencies for colour-naming are expected to be longer when prime-target words are related than when they are not related (Segal & Vella, 1990). Category primes for target groups such as African poor and skinheads are expected to effectively cue a range of stereotypic traits, either positive or negative in valence.

Exposure to social category primes for periods even as short as 100 ms has been shown to elicit stereotype activation (Fazio et al., 1995; Lepore & Brown, 1997). The use of response latency measures precludes controlled processing in participants, a specific problem in stereotype rebound research where, when in order to avoid overtly stereotyping some outgroups, participants spontaneously engage in suppression (Galinsky & Moskowitz, 2000; Wyer, Sherman, & Stroessner, 1998) and continue to suppress stereotypic material throughout the experiment (Galinsky & Moskowitz, 2000). In addition, implicit measures are also beneficial when gathering socially sensitive stereotypic information as researchers can then assemble data that participants may be neither willing nor able to report. In contrast to earlier experiments where explicit measures of stereotyping did not show evidence of rebound (Experiments 1 and 3), the primed Stroop test is expected to provide clear evidence of stereotype activation and rebound; response latencies are predicted to be much slower for suppressors, compared to nonsuppressors, as they are expected to experience increased accessibility of stereotypes, as a consequence of their suppression.

In view of the findings of two earlier experiments where suppressors appeared to respond with approach behaviours when relating to poor African people and non-suppressors did not, both positive and negative trait words were included in this study. Initial evaluations of others provide fast feedback to perceivers (Bargh, Chaiken, Govender, & Pratto, 1992; Fazio et al., 1986) providing perceivers with information that is used as a basis of judgement (Schwartz & Clore, 1996). However, much of the

research into affect and social judgment has focused upon the negative rather than positive integral affect that is elicited by specific social groups (Bodenhausen, 1993; Devine & Elliott, 1995). Suppressors' approach behaviours, observed in Experiment 2 in response to African poor primes, are consistent with positive evaluations of the target group member; therefore it was expected that longer response times would occur for positive, compared to negative, stereotypic trait words. Thus, the current experiment had two main aims. The first goal was to provide evidence for increased levels of stereotype activation in suppressors who, after suppressing their stereotypes during the writing of narrative essays were expected to experience hyperaccessibility of their stereotypes of the African poor target group. A second aim was to obtain evidence of positive, rather than negative, trait attributions for participants who suppressed their stereotypes of the poor.

Hypotheses

The primary goal of this research was to test for increased levels of stereotype activation, rebound effects, in stereotype suppressors relative to the control group. It seems reasonable to assume that participants in previous experiments have activated stereotypes since evidence of stereotype rebound was found using implicit but not always with explicit measures of stereotypic responses. Current research in stereotype rebound reports higher levels of stereotype activation or hyperaccessibility in participants following periods of suppression (e.g., Newman, Duff, Hedberg, & Blitstein, 1996). Therefore, in the current experiment, longer response times for suppressors are expected to indicate higher levels of stereotype activation, rebound effects, relative to non-suppressors. It was expected that there would be longer colour-naming latencies for stereotypic traits for suppressors who were expected to activate more stereotypic information in the second cognitive task.

Evaluative responses towards out-groups are associated with categories in memory (Fazio, Jackson, Dunton, & Williams, 1995; Perdue, Dovidio, Gurtman, & Tyler, 1990). In line with earlier results from Experiments 2 and 3, where suppressors appeared to use

approach behaviours, positive, rather than negative attributes, were expected to be associated with the African poor target group. Evaluative judgments of trait words, due to priming effects, have been found to be faster to evaluatively congruent, versus incongruent, target words (Bargh, Chaiken, Raymond, & Hymes, 1996). In the primed Stroop task, however, participants' responses are slower. Therefore, because positive attributes in the mixed content stereotype of the African poor were expected to be more accessible for perceivers following suppression, it was predicted that suppressors, compared to those in the control group, would have slower colour-naming response times for positive stereotype-consistent traits.

To investigate these possibilities, participants were asked to complete two tasks. In the first task, stereotype activation was primed in participants by asking them to write a short story about a poor youth from a developing country. Half of the participants, the suppress group, were asked to refrain from using their stereotypes when writing essays. All participants then completed a primed Stroop task (Segal, 1988); this implicit measure of stereotype activation produces response time indices that were predicted to be longer for suppressors, who were expected to experience increased accessibility for stereotypic material, relative to the control group. Finally, in the current experiment, measures were recorded in the same metric, millisecond response latencies, rather than in a mix of essays and seating positions, thus allowing meaningful comparisons of stereotype activation, suppression, and valence.

Method

Participants

Participants were 70 undergraduate psychology students (16 males and 54 females, 31 of whom were aged under 25). Participants were recruited from lectures and tutorials and invited to take part in a computer-based cognitive experiment. They were reimbursed at $10 for their time and came to the Psychology Laboratory individually for a session of around 20 minutes. The study consisted of two consecutive exercises: a

five-minute essay-writing task and a primed Stroop task consisting of five blocks of trials; both were conducted entirely on computer.

Apparatus

Participants worked on an IBM-compatible x86 Family 6 Model 8 Stepping 3 computer and were seated immediately before a ViewSonic 17" E70 Digital Monitor, with a resolution of 800 x 600 pixels and a refresh rate of 60hz. A Massey University software specialist collated data for the Stroop task and wrote a software programme for E-Prime (v.1.). Data were input into a Serial Response Box (model no. 200A) containing five keys and five lamps (only four were used in this experiment) designed to collect key presses from E-Prime.

Stereotype Trait Words

Sixteen trait words (four positive and four negative for each stereotype) that were stereotypic of African poor and skinhead target groups were used in the current experiment. Trait words for the African poor stereotype were taken from short essays written by participants about the developing-world poor in three earlier experiments. First, 37 trait words (see Appendix J) that were stereotypic of the African poor target group were extracted from narrative essays and rated by post-graduate university students ($N = 37$) on a 7-point scale (Blair & Banaji, 1996; Galinsky & Moskowitz, 2006); Each rater was asked "How well do the words below fit the common cultural stereotype for these two groups: African poor people (as depicted in aid advertisements) or skinheads?" Ratings ranged from -3 (not at all stereotypical) through to +3 (very stereotypical). Scores were transformed (by adding 4) so they that fell on a 7-point scale. Skinhead stereotypic trait words were extracted from a list provided in the appendix of Kawakami, Dovidio, Moll, Hermsen, and Russin (2000). Positive trait words stereotypic of skinheads used in this experiment were: *noisy, outspoken, boastful* and *cunning*. Negative skinhead stereotypic trait words included: *hateful, aggressive, hostile* and *cruel*. To ensure that trait words for the African poor stereotype did not also describe the

skinhead stereotype, paired *t*-tests were conducted for each trait word stereotypic of the African poor target group between the two primes, African poor and skinhead (see Table 7). Lists of stereotype trait words for each prime group were matched for word length and number of syllables. Mean word lengths for African poor primes were *M* = 6.63, *SD* = 1.68 and for skinhead primes were *M* = 7.25, *SD* = 1.75. In addition, twelve positive, negative and nonstereotypic words were chosen (e.g., *cuddly, angry, windy*) as traits for cat and dog primes, to be presented in the first practice block of 24 trials.

Table 7

African Poor Stereotypic Trait Words, Means and Standard Deviations

African Poor Stereotype		
Positive traits	Means and SDs	Paired *t*-tests*
Patient	5.12 (1.75)	$p < 0.01$.
Deserving	6.07 (1.49)	$p < 0.01$.
Creative	5.25 (1.40)	$p < 0.01$.
Happy	3.21 (1.75)	$p = 0.83$.
Negative traits		
Homeless	5.64 (1.75)	$p < 0.01$.
Hungry	6.68 (1.75)	$p < 0.01$.
Sick	6.50 (1.75)	$p < 0.01$.
Afraid	4.96 (1.75)	$p < 0.01$.

*t-tests for trait words between African poor and skinhead primes

Experimental Design

Trials were delivered in four blocks with each block containing 32 trials. Every block presented the two primes 16 times; within each block, each prime was followed by one positive and one negative stereotypical and non-stereotypical trait, presented in either red, blue, green or yellow. Therefore, in each block every trait was paired once with each prime (Dovidio, Evans, & Tyler, 1986; Neely, Keefe, & Ross, 1989). Across the four blocks, the 16 traits were presented a total of eight times, but the colour trait

combination varied, so that each trait-word was presented twice in each of the four colours. Participants were given rest periods at the end of each block and were able to commence the next block by pressing the appropriate key.

Procedure

Participants arrived at the laboratory and were briefed by the female experimenter who informed them that the study examined how people store and retrieve information in memory. Participants read the information sheet, signed a consent form and completed a questionnaire to provide information about their gender, age, exposure to aid advertisements in the media, and ability to distinguish between colours. Participants, first randomly allocated to either control or experimental conditions by the computer, were asked to write a short five-minute essay describing a typical day in the life of a poor African person shown in a photograph (see Appendix D). Instructions for writing short essays were the same as those provided to participants in Experiments 1, 2 and 3 and were written on the computer monitor. Participants were asked to type their short essays directly into the computer. As in earlier experiments, the experimental group was asked to refrain from using their stereotypes in the construction of this essay and the control group had no such instruction. Immediately following the essay task, both suppress and control groups completed a primed Stroop task (Kawakami, Dion, & Dovidio, 1999), where automatic stereotype activation is assessed by measuring the speed of ink-colour-naming of stereotypic and non-stereotypic target words relating to two category primes. Studies have shown that when participants are asked to name the ink colour of stereotypic attributes, the word's meaning must first be suppressed and this takes longer if it has received some residual activation (Bargh, 1982; Logan, 1980). Thus, we expected to see longer response latencies in colour-naming for participants who unconsciously activated stereotypes of poor African people.

All instructions were written directly into the program using 28-point Times New Roman font and were centred on the screen. The primed Stroop test was described as a colour identification task and participants were specifically asked to "be as fast and as

accurate as possible" in identifying the colour of the second word, displayed in one of four colours. An E-prime response box, placed directly in front of the computer monitor, contained colour-coded keys in red, blue, green and yellow, and participants were advised to place their first and second fingers of each hand upon the keys in readiness for their responses. Participants read through instructions on the computer and began first with a block of 24 practice trials. As per Kawakami et al., each trial began with an * (asterisk) that remained in the centre of the screen for 300ms to ensure participants were prepared; this was followed by a blank screen for 500ms. Primes, printed in the centre of the screen and measuring 15mm high were presented for 950ms and followed by a blank screen for 50ms before the onset of the target word.

Word primes for this task were either 'African poor' or 'skinhead'. Because participants had been exposed to an image of an African poor person during the essay exercise, it was likely that the words 'African poor' would prime the expected category. Skinhead primes were chosen as a contrasting prime because related attributes were expected to reflect qualitative dimensions of cold and incompetent versus African poor dimensions of warm and incompetent (Fiske et al., 2007). In addition, rebound following stereotype suppression is more often assessed in relation to participants' skinhead stereotypes (Macrae et al., 1994; Gordijn et al., 2004), than with stereotypes of outgroups such as gay men (Monteith, Spicer, & Tooman, 1998) and the African poor.

Data Handling

Response latencies for colour naming were recorded for each participant by E-prime and accessed through the Data-aid program. Trials with an incorrect response were recorded as nulls (average error rate was 4%) and latencies greater than 1000 ms (Ratcliff, 1993) were removed from the dataset (5%). Data from one participant who made 26 errors (20%) when completing the Stroop task were deleted. These procedures resulted in a final data set comprising 8960 observations for 70 participants. Mean response latencies were calculated for each participant for each of the four conditions: prime (African poor

or skinhead), stereotypicality (consistent or inconsistent) and trait valence (positive or negative).

Results

Stereotypicality of First Essay

Essays were examined for their stereotypical content by two raters who were blind to the experimental condition for each essay. The raters used a 9-point scale anchored at 1 = not at all stereotypical, and 9 = extremely stereotypical. Inter-rater reliability was r (70) = .71, $p < .01$ (two-tailed) and scores were collapsed for raters and a single measure computed for stereotypical phrasing for each essay. A one-way analysis of variance (ANOVA) conducted on the averaged ratings of stereotypical phrasing in the essays revealed there was no significant effect of task instruction F (1,68) = .52, $p = 0.47$. However, suppressors wrote slightly less stereotypical material in their essays ($M = 4.41$, $SD = 1.99$) than did the control group ($M = 4.78$, $SD = 2.25$).

Other suppression studies using instructed suppression for day in the life scenarios have reported similar outcomes; for example, Hall and Crisp (2003) reported that instructions to suppress had no significant effect upon participants' essays about a Chinese female, while Wyer (2006) reported that in two experiments, participants did not use their stereotypes any less than the control group when writing about an African-American male. The essay rating process may not always produce reliable ratings; Hall and Crisp argued that the measure of stereotypicality used in narrative essays could possibly be a weak indicator of the effects of suppression. Monteith, Spicer, and Tooman (1998) reported that rating the stereotypicality of essays about gay men was difficult, ambiguous, and that inter-judge reliability was not acceptable, and consequently used a content analysis, measuring the frequency of stereotypical thoughts.

Amodio and Devine (2006) used a process whereby selected, stereotypical words were available to be used by the essay writers. However, in the main, highly significant differences in levels of stereotyping between suppression and control groups using a day

in the life methodology have been reported (Koole & van Knippenberg, 2006; Forster & Liberman, 2001; Penn & Corrigan, 2002; Wyer, Sherman, & Stroessner, 2000). Hall and Crisp subsequently included the suppression condition in their analyses because participants had already been exposed to different experimental conditions and they wanted to discover if suppression instructions led to increased stereotyping as predicted or had no effect whatsoever. Accordingly, in the current experiment, although suppressors' essays did not differ significantly from those of the control group, the suppression condition was included in the following analyses.

Data Analysis

Although two main types of category primes, target and comparison categories, were used in this experiment, only data from the target category, the African poor, were analysed (see Table 8)[3]. Participants' response latencies following African poor primes were analyzed with a 2 (instruction: suppress, control) x 2 (stereotype: consistent, inconsistent) x 2 (valence: positive, negative) mixed factorial ANOVA with repeated measures on the last two factors. No significant main effects were found (all Fs <1). There was no indication of a general hyperactivation of traits by the suppress group *(M = 622, SD = 101)* compared to the control group (*M* = 621, *SD* = 98).

Table 8

Mean Naming Latencies of Ink-Colours in Milliseconds for African Poor Primes

	Stereotypes		Nonstereotypes	
	Positive	Negative	Positive	Negative
Suppressors	626 (100.56)*	615 (98.87)	626 (96.18)	620 (108.48)
Nonsuppressors	618 (99.38)	622 (98.67)	616 (96.07)	628 (98.30)

Standard deviations are in parentheses

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[3] Data for the skinhead category were not analyzed; response times associated with skinhead primes were expected to be unaffected by suppress instructions and therefore could not be meaningfully compared with response times associated with African poor primes.

Surprisingly, there was also no indication that stereotypically consistent traits were more strongly activated than non stereotypic traits ($M = 621$, $SD = 100$) compared to the control group ($M = 620$, $SD = 99$). Based on findings in previous research one might expect that the African poor primes would cause greater Stroop interference for stereotypic traits for all participants. Possible reasons for this null finding will be discussed below.

Finally, there was no difference in colour-naming response latencies for positive and negative words ($M = 622$, $SD = 98$ vs. $M = 621$, $SD = 101$).

The primary prediction that there would be a three way interaction (instruction x stereotypicality x valence) was not supported *(F <1)* but a significant interaction between task instruction and valence was found, $F (1, 68) = 5.13$, $p = 0.03$, $\eta_p^2 = .07$, *OP* $= .61$). Specifically, response latencies for the suppress group were longer for positive and shorter for negative trait words, in contrast with the control group. This interaction was further examined by testing the simple main effects of valence for suppressors and nonsuppressors. As predicted, the suppress group was slower when identifying words that were positive attributes ($M = 626$, $SD = 96$) than negative attributes ($M = 617$, $SD = 98$), although this effect was only marginally significant $F (1,68) = 2.66$, $p = 0.11$, $\eta_p^2 = .04$, *OP* $= .36$). This result, interestingly, was mirrored by the marginally significant finding that the control group was slower to identify negative ($M = 625$, $SD = 98$) than positive attributes ($M = 617$, $SD = 96$), $F (1,68) = 2.47$, $p = 0.12$, $\eta_p^2 = .04$, *OP* $= .34$).

Discussion

The primary aim was to investigate rebound effects in suppressors who were expected to evidence longer response latencies, relative to the control group, when naming the colour of stereotypic trait words following African poor primes. Because stereotypic activation disrupts cognitive processing, longer latencies for colour-naming stereotypic trait words in the current study were interpreted as evidence that stereotypes were

activated in participants. However, participants' response latencies did not show evidence of more stereotype trait activation than nonstereotypic trait activation. Suppressors' response latencies were almost the same for positive traits that were either stereotypic or nonstereotypic. Similarly, the control group's response latencies were longer for both stereotypic and nonstereotypic traits that were negative.

Although response latencies were similar for suppress and control groups, when data were broken down into valence and stereotype-consistent attributes, the suppress group showed a different response-time pattern. Specifically, suppress participants were, on average, eight milliseconds slower than the control group to identify the colour of trait words that were positive and consistent with African poor stereotypes. In addition, suppressors were, on average, seven milliseconds faster to identify the colour of negative trait words that were consistent with African poor stereotypes. This pattern of results occurred although differences between suppress and control group on both the essay-writing and priming task were not statistically significant, and is consistent with rebound theory that argues for the hyperaccessiblity of suppressed stereotypes.

A second aim of this experiment was to examine the ambivalent content of perceivers' stereotypes of the poor, since rebound effects observed in Experiment 3 were different for the target groups that were qualitatively different, African poor and African wealthy. Past suppression studies have included a range of diverse target groups, such as politicians, body-builders, mentally ill individuals, and hairdressers, but stereotype content that might differentiate these social groups is not usually taken into account. The current results suggest that stereotype content may play a significant role in stereotype suppression and rebound; suppressors were more likely to endorse positive than negative trait words for the African poor target group, whereas the control group was more likely to endorse negative trait words. The processes of suppression therefore could not only tend to hyperactivate the positive aspects of stereotypic representations, but also tend to *hyperdeactivate* the negative aspects of stereotypes.

Stereotype Rebound

Response latencies from the primed Stroop task showed that when the valence of trait words was taken into account, suppressors showed a very different response pattern from nonsuppressors: suppressors appeared to be more likely to associate, or to demonstrate slower response latencies for positive material with African poor primes, irrespective of stereotypicality. In other words, positive trait words, either stereotypically congruent or incongruent, may have elicited slower response times in suppressors relative to the control group. Slower response times indicate the activation of stereotypic categories that are evaluatively consistent; that is, participants were slower to respond to positive trait words because positive trait words were more likely to become active automatically following the presentation of African poor primes. Fazio, Sanbonmatsu, Powell, and Kardes (1986) assessed associations between concepts and evaluations indirectly by measuring the time required to evaluate good or bad words, such as wonderful and terrible following the presentation of a prime, a Black or White face. Bargh, Chaiken, Raymond, and Hymes (1996) further showed that the evaluation effect is unconditionally automatic and occurs without strategic evaluative processing. They demonstrated the automatic evaluation effect using a standard priming procedure that showed participants need less time to name a target word if it is preceded with a prime stimulus with the same valence; participants were faster to respond to the word *beautiful* when it was preceded by the prime *puppy* than when it was preceded by the word *devil*.

Suppressors' apparent slower response times for positive trait words in this study are also consistent with results from earlier experiments where suppressors were more likely than the control group to use approach behaviours with African poor group members. Possible approach behaviours suggest that perceivers may have engaged in positive evaluation of the target stimulus, as automatic attitudes are thought to be a strong predictor of prejudicial behaviour (Fazio et al., 1995). In the current study, compared to controls, suppressors seemed to be less inclined to associate negative trait words, either stereotypic or nonstereotypic, with their stereotype of the African poor. According to

theories of suppression, suppressors experience increased accessibility of their stereotypes, and the slower response times for positive rather than negative material suggest that suppressors' stereotypes of the African poor target group may contain a bias favouring suppression of negative stereotype content. It is important to note that suppressors appeared to be slower than the control group in naming the colour of positive traits, and faster than the control group in naming the colour of negative traits following African poor primes. Therefore suppressors may have shown a tendency to experience increased accessibility for positively valenced aspects of stereotypes of the African poor. It is also possible that suppressors have experienced inhibition for negatively valenced aspects of their stereotypes of the African poor.

Stereotype Activation AND Inhibition

One alternative explanation for the results from this experiment is that priming stereotypes in participants could act to both facilitate and inhibit responses to positively and negatively valenced trait words. Inhibitory mechanisms have also been shown to operate when people are faced with competing cognitive categories (e.g., Macrae, Bodenhausen & Milne, 1995; Dijksterhuis & van Knippenberg, 1995) and conflicting emotions (e.g., Bower, 1981). Target people in the environment possess multiple attributes and depending on perceivers' goals, can be categorised in a number of ways (e.g., gender, occupation or ethnicity). Inhibitory mechanisms may also operate to fulfill perceivers' expectancies and goals. For example, Dijksterhuis and van Knippenberg (1996) showed that stereotypic attributes may be facilitated at the same time that stereotype inconsistent attributes are actively inhibited. Accordingly, Bodenhausen and Macrae (1998) argue that both facilitatory and inhibitory factors are important in regulating the expression of stereotypes; they suggest that when a certain aspect of the target's identity dominates, or leads to a stereotypic categorisation, then "competing categorizations are *actively inhibited*" (p. 12).

Stereotype Inhibition

To show inhibitory process in stereotyping, Macrae et al. (1995) presented participants with an Asian woman target who could have been categorised in terms of either her ethnicity or gender. Participants were first primed with either the word 'woman' or the word 'Asian'. After watching a video of the Chinese woman, participants made judgments of words that were stereotypic of either women or Asians. As expected, those primed with the word *woman* were faster to make stereotypic judgments of women compared to the control group, but they were also significantly slower to respond to Chinese stereotypic words. This pattern of results was reversed when participants were primed with Chinese words; they were then faster to make judgments related to Chinese stereotypes and appeared to inhibit responses for the competing category 'woman'. Macrae et al. proposed that inhibitory mechanisms had operated in conjunction with facilitatory mechanisms and thus simplified the categorisation process.

Dijksterhuis and van Knippenberg (1996) also reasoned that inhibitory processes in categorisation might facilitate social perception and thus play a highly functional role. They conducted three experiments to see if stereotype activation rendered counterstereotypic traits less accessible. In the first experiment, half of the participants were primed with the category 'soccer hooligans' and compared to those who had received no prime, were significantly faster to verify stereotype consistent words for soccer hooligans. By priming the stereotype of a 'professor' or 'soccer hooligan' the researchers found that participants showed slower lexical decision latencies for counterstereotypic trait words. Two further experiments found the same results. The studies described above suggest that, as predicted, stereotype activation may act to increase the accessibility of stereotypical information but at the same time inhibit counterstereotypic information. It is possible that suppression might exacerbate this process, so that stereotypic traits are even more accessible while counterstereotypic data might become more inhibited. In the current study, suppressors' and controls' response latencies appeared to differ most in terms of positive and negative judgments. Indeed Dijksterhuis and van Knippenberg (1998) suggest that because stereotypes function

primarily to streamline and simplify social perception, then theoretically, social perception "would also benefit from inhibition of information that is evaluatively inconsistent with the stereotype" (p. 93).

Evaluative Stereotypic Information

Dijksterhuis and van Knippenberg (1998) suggest that the inhibition of evaluatively inconsistent information could similarly simplify perception processes and facilitate social interaction. Stereotypes contain both descriptive characteristics and beliefs about target members, but these beliefs are likely to be associated with evaluative aspects. In fact, a study from Fazio and Dunton (1997) showed that evaluative aspects of the stereotypes can be an important determinant of categorisation. Target members are associated with relevant categories in memory, but those categories that are the most evaluatively laden, containing highly accessible attitudes, attract more attention from perceivers and may dominate the categorisation process (Fazio, 1998). To show that categorisation is affected by evaluative aspects of the target member, Fazio and Dunton (1997) primed participants with photos of African-American and White undergraduates. On each trial, following the prime, participants were asked to judge whether an evaluative adjective was 'good' or bad'. Fazio and Dunton reasoned that judgment latencies for positive and negative adjectives provided an indication of the individual's attitude towards the primed objects. Some individuals automatically associated positive adjectives with African-American primes whereas others automatically associated negative adjectives with African-American primes. Thus, just as the processing of stereotypic information facilitates, and also inhibits, categorisation, so too can evaluative judgments.

Evidence for the activation and inhibition of evaluative aspects of stereotypes comes from a study conducted by Perdue and Gurtman (1990). They primed participants with the words *young* and *old* before presenting a positive and negative word and asking them to complete a lexical decision task. Participants were faster to respond to positive words after being primed with the word 'young' than when they were than primed with

'old'. Slower responses to negative words after being primed with 'young' rather than with 'old' indicated that priming 'young' actively inhibited the negative evaluations. Dijksterhuis and van Knippenberg (1998) argue that evaluative factors, not descriptive factors, are responsible for these inhibition effects. Similarly, suppressors in the current experiment who were slower to respond to positive trait words, whether they were stereotypical or not of African poor people, may have demonstrated facilitated access to positive trait words and inhibition of negative trait words.

Categorisation

Not all stereotype judgments stem from trait-based inferences, and, at intergroup level, are often comparative judgments reflecting the differences in group status and positions (Tajfel, 1981). In many instances, perceptions of the target person's situation are elicited by the context; in the current experiment, the context surrounding images of the poor may have affected information processing strategies in participants. Features of the situation that are consistently associated with images of the aid-related poor may activate specific aspects of perceivers' stereotypes. For example, people in poverty may be judged very differently when portrayed in an African environment compared to a poverty-stricken US environment (e.g., Lott, 2002). Mitchell, Nosek, and Banaji (2003) demonstrated the importance of context when they asked participants to complete two Implicit Association tests, both with the same stimuli: names that varied in gender and race and words that were pleasant and unpleasant. When participants categorised words by gender, they evaluated African-American females positively and White males negatively. However, when categorising words by race, African-American females were evaluated negatively and white males positively. As expected, evaluations were consistent on both dimensions for White females (positive) and African-American males (negative) for both race and gender conditions. Thus, participants evaluate others in terms of a specific category, but the salience of categories may result in different stereotypes being used (Macrae, Bodenhausen, & Milne, 1995). More importantly, the ideas raised by the research described above suggests that in the current experiment, suppression may have led participants to categorise target members positively,

suggesting that for suppressors, but not the control group, positive evaluations of the African poor target group in an aid-related context were more accessible in memory.

Stereotype Activation

In accordance with theories of automatic stereotype activation we expected in the current study to see slower response times for stereotype-congruent material, particularly for suppressors. Although many studies propose that stereotype activation is inevitable (e.g., Kawakami et al., 1999), a number of researchers have demonstrated evidence of personal control in the early stages of stereotyping (e.g., Chartrand & Bargh, 1996; Moskowitz et al., 1999). By using a primed Stroop task participants were expected to remain unaware of stereotype priming and even if they were aware, to have insufficient time to moderate their response. However, results showed that stereotype trait words congruent with African poor primes elicited response times no slower than stereotype trait words that were incongruent (or should have been) with African poor primes. Similar results were reported by Blair and Banaji (1996, Experiment 1), who found that priming was stronger for non-trait words (e.g., flowers) than for stereotype words (e.g., patient). In their experiment, following the presentation of female primes such as Jane, participants were faster to respond to pairings of Jane-flowers than they were to Jane-patient. The researchers explained this finding by concluding that physical attributes of a target, such as race and appearance, may be more strongly associated with a social group than personality traits such as deserving and happy. Therefore, categorisation may be more dependent upon physical rather than less tangible qualities. Personality traits may accordingly be used to make attributions and explanations when conscious, rather than unconscious, judgments are made (Hoffman & Hurst, 1990; Jost & Banaji, 1994). This seems a plausible explanation, given that participants completing the primed Stroop in the current study were under time pressure and thus short of cognitive resources; in addition, participants were instructed to ignore the meaning of the words.

A more likely explanation for participants' similar response latencies for stereotype-consistent and stereotype-inconsistent material might come from studies conducted by Locke, MacLeod, and Walker (1994) and Kawakami, Dion, and Dovidio (1998). In Locke et al.'s study, participants were divided into low and high prejudice groups, but only the low prejudiced group showed no reliable difference between colour-naming latencies on stereotype-related trait words and stereotype-unrelated trait words. On the other hand, high-prejudice participants, in comparison to low-prejudice, not only showed reduced activation of stereotype-unrelated trait concepts, but also activated higher levels of both positive and negative stereotype-related words when judging Aborigines. In other words, lower prejudiced perceivers, when judging others, tended to activate a wide range of traits in an unbiased manner, and thus included a wide range of information, both related and unrelated to the stereotype. Kawakami et al. found similar results; using a pronunciation task to measure stereotype activation, they found that low-prejudiced participants showed no evidence of differential activation for stereotypic and nonstereotypic words as a function of the category prime. As participants in the current study were recruited from the psychology school, it is likely that many were committed to low-prejudiced responses; accordingly participants may have completed the Stroop task as did the low-prejudiced participants in Locke et al.'s study by responding similarly to both stereotype-related and stereotype-unrelated trait words. However, because suppression systematically affected participants' response times for positive trait words, it seems likely that stereotype suppression affects how others think about target group members. If the current experiment had been conducted with participants who were high (rather than low) in prejudice, it is possible that the predicted three-way interaction between instruction, stereotype and valence would have occurred (i.e., for suppressors, compared to controls, slower response times would have occurred for positive, stereotypic trait words).

Limitations

A major limitation of this study is that suppressors were not clearly differentiated from nonsuppressors in the essay-writing task, so that it is not clear that differences between

nonsuppressors' and suppressors' colour-naming latencies were due solely to suppression instructions. However, participants' response latencies from the Stroop task were clearly different for suppress and control groups when stereotype valence was taken into account. This is consistent with a finding for phrase valence effects on Stroop outcomes reported in Atkins et al. (2005). Despite the fact that groups were not differentiated in explicit measures, there appear to be systematic differences in the implicit response latencies of suppressors compared to nonsuppressors.

Another limitation is that individual differences in suppression abilities were not explored. For example, Brewin and Beaton (2002) found that effective thought suppression was related to individual differences in higher working memory capacity and greater fluid intelligence, suggesting that individual differences in mental abilities may influence suppression results. Rutledge, Hollenberg, and Hancock (1993), who did not find rebound in their research, conducted a four-factor regression model that showed that thought rebound was correlated with other participant variables such as gender and "race". In addition, higher scores on a college admission test (ACT) predicted more rebound, suggesting that university participants may be more likely to experience rebound effects. It is important to note that individual differences that affect the likelihood of rebound might be especially likely to impact results when sample sizes are small; rebound effects do not appear to occur for everyone. Specifically, if only a minority of participants were likely to be rebounders, as in Rutledge et al. (1993), then results in the current experiment would have been affected.

Conclusions

In general, the results in the current study are consistent with expectations and provide some support for theories of stereotype rebound and hyperaccessibility of suppressed stereotypes. It was predicted that suppressors, compared to nonsuppressors, would show evidence of heightened stereotype activation and that positive, compared to negative, trait words would elicit longer response times in participants. The findings show that for suppressors of stereotypes of the African poor, positively-valenced material may be

more accessible than negatively-valenced material. These results provide some support for previous findings of approach behaviour following suppression. To the extent that stereotypical representations influence perceivers' thinking and behaviour, then disentangling fundamental differences in stereotype content is important. The content of people's stereotypes of the African poor may be a important factor that influences how stereotype rebound is expressed, thus affecting people's responses to aid advertisements. As predicted by Carr and Atkins (2003), stereotype rebound effects in the aid advertisements context are, at least moderately, "a force to be reckoned with" (p. 294).

Chapter Six

General Discussion 1:
Implications of Stereotyping and Rebound
For Social Cognitive Theories

This chapter considers the implications of findings from four experiments for current theories of stereotyping and stereotype rebound. First, I consider perceivers' thinking and behaviour towards the developing-world poor target group in the context of both explicit stereotyping, occurring with perceivers' awareness and intention, and implicit stereotyping, occurring without perceivers' awareness or intention. The next section discusses how suppression affects such cognitive processes as those of facilitation and inhibition that underpin social stereotyping. Results from the current experiments suggest that not only does suppression lead to the hyperaccessibility of the suppressed stereotype, but it may also affect separate aspects of the stereotype. Unexpected findings of reverse rebound suggest that theories of rebound may need to take into account the way suppression processes influence perceivers' responses towards target groups whose stereotypes are composed of ambivalent content. In the last section, I consider how the findings from this research might be extended and discuss limitations and suggestions for further research.

Results from three of four experiments suggest that those who suppress their stereotypes of the developing-world poor are likely to experience stereotype rebound effects, whereby suppressed stereotypes and their contents become more intrusive and subsequently lead to higher levels of stereotypical thinking and behaviour. However, the content of perceivers' stereotypes of the developing-world poor may affect stereotype

rebound; suppressors did not show evidence of an increased reliance upon their stereotypes when explicit measures of stereotyping were used, but did show evidence of increased stereotyping when implicit measures of stereotyping were used. In Experiment 2, suppressors were more likely to choose a closer seat next to that of an alleged target group member (evidence of approach behaviour) than controls. Suppressors were also more likely to associate positive than negative traits words with an African poor prime, suggesting that they may have made stereotypic warmth-related judgments.

The primary aim of this research was to explore the possibility that perceivers who suppress stereotypes of the aid-related poor would experience rebound effects. However, these were not inevitable for the African poor target group; a number of stereotype suppression studies have failed to observe rebound for target groups that people prefer not to overtly stereotype, such as gays, African-Americans and schizophrenics. Stereotype rebound effects found in experiments in this thesis are first considered in the context of explicit stereotyping in narrative essays where perceivers are expected to have awareness and/or control of their stereotypical thinking and behaviour, and then in the context of implicit stereotyping in colour-naming tasks, and seating choices where perceivers were expected to be either unaware of the stereotypic measure or unable to exert control over stereotypic thinking.

Rebound and Explicit Stereotyping

Dual-process theories (Brewer, 1988) are based on the premise that perceivers engaged in impression formation use a default cognitive processing strategy that is automatic: fast, effortless, unintended and uncontrollable. Most models of stereotyping represent categorisation as the first step in stereotyping; categorisation is often seen as automatic and associated with automatic stereotype activation, although some researchers argue that stereotype activation need not be automatic. At the other end of the continuum, systematic cognitive processing strategies presumed to be rational and methodical are expected to operate in a more effortful and controllable manner: controlled processing.

In stereotypical thinking, such processes operate when perceivers engage in active scrutiny of information, such as using motivated reasoning and effortfully monitoring and controlling the expression of their stereotypes. Automatic and controlled processing modes can operate simultaneously; stereotypic information can be explicit, depending on explicit memory of objects and their meanings, or implicit, derived from unconscious experience or not explicitly remembered, or a mixture of both.

To first test the hypothesis that suppressed stereotypes of the developing-world poor would rebound and thus lead to hyperaccessible stereotypes, an explicit measure of stereotyping, a measure of conscious and deliberative thinking, was used in Experiments 1 and 3. Unlike other suppression studies where rebound effects have been observed in self-report measures (e.g., Wyer, Sherman, & Stroessner, 1998; Gordijn, Hindriks, Koomen, Dijksterhuis, & van Knippenberg, 2004), suppressors in Experiment 1 showed no evidence of stereotype rebound in their second narrative essays. It is likely that because perceivers were aware of their stereotypic thinking and also that stereotypic measures were being recorded in the experiment, self-presentational factors and prescriptive social norms led them to continue suppressing their stereotypes throughout the writing of their second essays. The next two sections explore these ideas in more detail.

Explicit Processes in Stereotyping

According to the ironic process theory, both implicit and explicit cognitive processes, and the interplay between them, can lead to rebound effects. The operating system, an explicit process, operates only when there is a motivation to suppress, but requires adequate cognitive capacity. When the motivation to suppress is high but cognitive capacity is low, implicit processes of stereotyping may dominate because the monitoring system, an implicit process, in its continual search for evidence of the unwanted thought, acts to prime the unwanted thought. Evidence for this comes from Gordijn et al.'s (2004) study; they found that motivations to suppress, and depleted cognitive resources, affected suppression outcomes in that suppressed stereotypes were hyperaccessible, but

only for those who were low in internal suppression motivation and lacking in cognitive resources. Similarly, Wyer, Sherman, and Stroessner (2000) found that unless perceivers possess both motivation and cognitive resources, stereotype suppression leads to increased accessibility of those stereotypes. It thus follows that when explicit measures of stereotyping were used in my research, participants who were instructed to suppress may have also possessed adequate cognitive resources to enable them to control the expression of stereotypic thinking, and thus the rebound effect. Another possibility is that stereotype control may have become practised and therefore automatic.

Motivation and Control

Some perceivers develop goals to avoid experiencing guilt and compunction after stereotyping others (e.g., Monteith, Ashburn-Nardo, Voils, & Czopp, 2002; Plant & Devine, 1998) and so may feel compelled to control the expression or even the activation of stereotypes of certain target groups. Activated stereotypes can be overridden when perceivers engage in controlled processing strategies, such as suppression or using effortful, time-consuming processing to gather individualistic information about a target member. However, with constant practice and repetition, stereotype control strategies can eventually operate automatically and thus become an implicit process (Smith & DeCoster, 1999). For example, perceivers who are automatically vigilant for unintended bias have been shown to control the (implicit) activation of unwanted stereotypes (Moskowitz et al., 1999). Similarly, research has shown that those who have implementation intentions to behave fairly and have specific goals to implement an unbiased response, (e.g., "if I describe a given homeless person, then I will avoid stereotypic statements"), may find that such intentions eventually operate in an effortless, efficient manner (Gollwitzer, Bayer, & McCulloch, 2005). As evidence of automatic control in stereotyping, many studies have found that low prejudice people exhibit less implicit stereotyping than do high prejudice people (Kawakami, Dion, & Dovidio, 1998; Locke, MacLeod, & Walker, 1994). Thus, the regulation and control of unwanted thoughts may occur in automatic mode just as it does in controlled processing (Dijksterhuis & Smith, 2005).

Conclusion

In Experiments 1, 3, and 4 there were no significant differences in stereotypic phrasing between suppress and control groups in explicit essay-writing tasks, suggesting that some participants may have either failed to activate, or activated and successfully controlled their expression of stereotypes when viewing images of the poor. Explicit measures of stereotyping record deliberative and controllable cognitive processes and thus give perceivers the opportunity to monitor the expression of their stereotypes. Because suppressors did not always show evidence of rebound when writing essays about the developing-world poor, in contrast to other studies where rebound has been demonstrated in essay-writing tasks, it appears that it was the *content* of people's stereotypes of the poor that may have provided motivation for continued suppression. Evidence for this idea comes from Experiment 3, where results showed that for the wealthy African group, suppressors were likely to be more stereotypical in their second essays than controls, in contrast to those for the African poor group where suppressors tended to be less stereotypic.

In Experiments 2, 3, and 4, implicit measures of stereotype rebound were used; implicit measures record the output of activated automatic associations that operate outside awareness and may be "introspectively inaccessible" for the perceiver (Egloff & Schmuckle, 2003, p. 1697). Because unconscious stereotype-related thinking and behaviour follows automatic stereotypical thinking (Aarts & Dijksterhuis, 2000; Bargh & Chartrand, 1999), rebound effects were expected to be observed for the aid-related poor target group when implicit measures of stereotyping were employed (Experiments 2, 3, and 4).

Rebound and Implicit Stereotyping

Indirect cognitive measures, such as priming tasks (Devine, 1989), lexical decision measures (Gaertner & McLaughlin, 1983), word completions (Chartrand & Bargh, 1996) and the implicit association task (Greenwald, McGhee, & Schwartz, 1998) can assess the automatic influence of stereotypes upon thinking and behaviour. In this thesis,

implicit measures of stereotyping were used to assess implicit and nonconscious associations that constitute the stereotype; these associations provide an indication of the level of accessibility (e.g., stereotype rebound).

Implicit Stereotyping

Implicit measures of stereotyping record facilitation effects, or an increased ease of processing that may operate outside the perceiver's awareness and thus without intention or control. Studies have found that perceivers completing priming tasks have little control over the outcome of the measurement when there is a short stimulus onset asynchrony (SOA) between the onset of the prime and the onset of the target word, although this does not mean they are unaware of the cognition being measured. Thus, priming effects occur even when participants are asked to ignore primes or not to be influenced by them. For example, Kawakami, Dion, and Dovidio (1998) who investigated perceivers' intentionality found that, despite their intentions, perceivers were unable to ignore the semantic meaning of stereotypes and not activate stereotypic traits. Implicit measures, such as the primed Stroop task used in the Experiment 4, may therefore provide some evidence for automatically activated stereotypes that exist outside awareness and may not be under the control of the perceiver.

'Reverse' Rebound?

The findings from Experiment 2 where suppressors of stereotypes of the poor chose closer seating positions are in direct contrast to Macrae et al.'s (Experiment 2) results where suppressors chose to distance themselves and sit farther away from the target person. However, the reverse rebound effect found in this experiment is consistent with research showing that activated stereotypes can lead perceivers to behave in a way that is congruent with stored mental representations of a specific target group (Bargh, Chen, & Burrows, 1996; Chen & Bargh, 1997; Wheeler & Petty, 2001).

One explanation for the approach behaviour that is in line with the stereotype content approach is that suppressors whose stereotypes of the poor were hyperaccessible were more likely to automatically evaluate target group members. The "automatic evaluation effect" (Bargh, Chaiken, Raymond, & Hymes, 1996) is based on the premise that perceivers automatically evaluate stimuli in the immediate environment as either good or bad (Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Glaser & Banaji, 1999). Duckworth, Bargh, Garcia, and Chaiken (2002) have reported that evaluative responding can be "immediate, implicit, stimulus based, and linked to approach and avoidance motives" (p. 513).

A number of studies have shown that evaluative responding is associated with corresponding motor actions (e.g., Chen & Bargh, 1999; Neumann, Forster, & Strack, 2003; Bessenoff & Sherman, 2000). Cacioppo, Priester and Berntson (1993) used arm flexion to show that evaluations and motor responses were linked; participants who evaluated ambiguous objects in their experiments were more likely to feel positive about objects when their arms were pulled towards themselves than when they were extended and pushed away. Participants remained unaware of the link between arm movements and evaluations, providing evidence for the hypothesis that positive evaluations are associated with approach responses. Chen and Bargh (1999, Experiment 2) also asked participants to move a lever in response to a displayed word. Participants were faster to respond by pulling the lever towards them when the displayed words were positive than when they were negative, and faster to push the lever away from them when displayed words were negative. Chen and Bargh (1999) concluded that the automatic evaluation effect is linked directly to the basic motivational states of approach and avoidance, with positive stimuli eliciting approach actions and negative stimuli leading to avoidance actions. Seating positions chosen by suppressors in Experiments 3 in relation to two different target groups can be understood as showing evidence of evaluative responding and associated behaviour.

Another potential explanation for reverse rebound and closer seating positions found in Experiment 2, is that stereotypic behaviour appears to follow spontaneously from the

automatic activation of stereotypes (Chartrand & Bargh, 1996; Bargh, Chen & Burrows, 1996) or by a direct link that exists between category priming and behaviour. Researchers argue that stereotypic traits are linked to social categories in memory so that when social categories are primed, so too are the associated behavioural representations (Kunda, 1999; Bargh, 1997). Bargh, Chen, and Burrows (1996) showed that unconsciously activated constructs or primed stereotypes lead perceivers to subsequently act in line with the content of primed constructs. In Experiment 1 they primed participants with words that were either rude (e.g., impolite and obnoxious) or polite (e.g., respect and considerate), expecting these words to activate corresponding behavioural constructs. As predicted, participants primed with rudeness were more likely to behave in a rude manner than controls, and participants primed with politeness were more likely to behave in a polite manner. In their Experiment 2, those participants primed with a stereotype of the elderly walked more slowly down a hall than controls, after the experiment had concluded. Similarly, Dijksterhuis and van Knippenberg (1996) found that participants behaved more intelligently when primed with a stereotype of professors than when primed with one of soccer hooligans. In both the studies described above, stereotype content was not only a determinant in perceivers' behaviour, but also appeared to increase the likelihood of that stereotypic behaviour. Moreover, stereotypic behaviour showed evidence of implicit processing, that is, without awareness or intent.

Participants' seating positions in both Experiments 2 and 3 may have reflected unconscious stereotypic responses that occur even when suppressors seek to control the expression of such thinking. Stereotypic behaviour can be expressed in non-verbal ways such as facial expression, aversion of eye contact, and social distancing, suggesting that perceivers find stereotypic behaviour difficult to control (Fazio & Dunton, 1997; DePaolo, 1992). Ekman and Friesen (1969) suggest, "when the individual is engaged in deception, his body, more than his face, is a source of leakage and the nonverbal act reveals a message otherwise being concealed" (p. 288). Ekman and Friesen (1975) showed that nonverbal behaviours more accurately leak deception than do facial expressions, presumably because people are more aware of their facial expressions and less aware of their body language. Measures of social distancing, such as seating choices

made in Experiments 2 and 3 may be a behavioural effect that clearly reflects stereotypic thinking; it is possible that implicit measures of behaviour, those of uncontrolled or unintended behaviour, rather than essay-writing tasks, accurately reflect internalised and automatised personal beliefs. Thus, reverse rebound may have occurred because suppressors' behaviour was directly related to positive judgments of the target group member (the automatic evaluation effect) or because suppressors' behaviours were directly in line with the content of their stereotypes of the African poor. It is possible that perhaps people might associate the African poor with default 'helping' behaviours, and thus unconsciously act in a way that is consistent with such behaviours, such as sitting closer to the target group member.

Implicit and explicit measures may reveal different aspects of stereotypical thinking (e.g., Devine, 1989). Differences between implicit and explicit measures of stereotyping, and different rebound findings for essay-writing and behavioural measures, can be explained by a dissociation between implicit and self-reported attitudes (Banaji & Greenwald, 1995; Devine, 1989; Fazio et al., 1995). Although some researchers have found a correspondence between implicit and explicit measures (e.g., Vanman, Paul, Ito, & Miller, 1997), many have reported dissociation between implicit and explicit measures of stereotyping (e.g., Fazio, Jackson, Dunton, & Williams, 1995; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Locke, MacLeod, & Walker, 1994).

Dissociation between Explicit and Implicit Measures of Stereotyping

According to the dissociation approach, perceivers maintain two different aspects of one stereotype: internalised culturally shared beliefs (measured implicitly) and conscious beliefs (Brauer, Wasel, & Niedenthal, 2000). Conscious beliefs can be elaborated upon and influenced by attitudes, experiences, and self-presentational practices, and are often assessed with explicit measures. Internalised beliefs on the other hand, are measured implicitly without participants' awareness or intention.

Implicit and explicit measures of stereotyping may therefore be unrelated (e.g., Blair, 2001; Wittenbrink et al., 1997), and may capture a theoretical distinction between the activation and application of stereotypes (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997). That is, implicit and explicit measures may reflect different aspects of participants' motivation; while implicit measures capture responses that remain outside awareness, explicit measures capture responses that reflect participants' current motivation (Blair, 2001; Devine, 1989). As noted earlier, perceivers do not always apply automatically activated stereotypes; while automatic activation has the capacity to affect subsequent judgments, some perceivers do not use their activated stereotypes. For example, rebound effects are not always observed in explicit measures of stereotyping even when the same participants have shown clear evidence of stereotype activation (e.g., Monteith, Spicer, & Tooman, 1998).

Implicit measures, because they should be free from the response biases and social desirability behaviours, may be better predictors of spontaneous social behaviour than explicit measures (Fazio et al., 1995; Greenwald et al., 1998). Dovidio, Kawakami, Johnson, Johnson, & Howard, (1997), for example, found that participants' explicit race judgments and evaluations of a African American experimenter were not predictive of friendly and interested behaviour when participants were interacting with one. Explicit and implicit measures were therefore not correlated in this study. Hetts and Pelham (2001) suggest that if implicit stereotypes are "typically unconscious, difficult to disrupt and widely held, then their impact on judgments and behavior may be much more pervasive than has often been suggested" (p. 112). Thus, in my research, participants' seating choices that reflect approach motivations may more clearly indicate people's likely responses to aid advertisements and better predict people's intentions to help (e.g., donate) than self-report, essay-writing exercises.

Results from this thesis (e.g., approach behaviours) suggest that the content of people's stereotypes may affect rebound. In the literature, stereotypes are assumed to be stored and retrieved in memory as a unified whole (e.g., Bodenhausen and Macrae's 1998 model of stereotyping) and thus stereotype activation leads to the simultaneous

activation of strongly associated attributes. It is possible, however, that this activation of strongly associated attributes is in turn accompanied by the activation or inhibition of other attributes (e.g., Macrae, Bodenhausen, & Milne, 1995) that also have important effects on judgments and behaviour (e.g., Bargh, Chen, & Burrows, 1996). In this research, the process of suppression may have led to some aspects of stereotype content becoming more accessible than others: in Experiment 4, positive, rather than negative, trait attributions for the members of poor African target group may have been more accessible for suppressors, but less accessible for those in the control group.

Rebound and Stereotype Content

Facilitation and Inhibition Effects in Stereotyping

Many social groups are categorised in terms of traits (e.g., Uleman, Newman, & Moskowitz, 1996), not all of which may be directly relevant to the stereotype. Social perception is therefore facilitated by the operation of facilitatory and inhibitory processes that bring clarity to the impression formation process, counterstereotypic traits becoming more inaccessible. For example, the multiple-category problem, when a target group member can be multi-categorisable, has been shown to elicit both facilitatory and inhibitory processing in perceivers, depending on the categorisation that is active at a particular point in time (Macrae, Bodenhausen, & Milne, 1995; Dunn & Spellman, 2003). These studies show that the activation of one category, like 'Chinese' is accompanied by the inhibition of another competing category, like 'woman'. Facilitation and inhibitory effects in stereotype activation may also affect the content of activated stereotypes. For example, strategic effects on automatic stereotype activation were reported by Wittenbrink, Judd, and Park (2001) who found that variations in the stimulus context cued the activation of different aspects of stereotype content in perceivers, even when they were not in control of stereotype activation. In Wittenbrink et al.'s study, the automatically activated attitudes of perceivers varied with the situational context; stereotypically positive and negative stimulus contexts were found to reliably affect participants' responses.

Quinn, Hugenberg, and Bodenhausen (2003) hypothesised that stereotypic information might be integrated and organised along lines of valence; valence is one of two dimensions of emotion employed in emotional appraisal (Lang, Bradley, & Cuthbert, 1990; Bradley, Greenwald, Petry, & Lang, 1992) and can be described as a continuum that ranges from positive to negative. Because most stereotypes of social groups contain both good and bad qualities of evaluatively mixed stereotypic content they present a dilemma for perceivers who strive for consistency (e.g., Festinger, 1957; Heider, 1958). Quinn and colleagues speculated that perceivers use valenced information purposefully, so that the activation of a relevant stereotype (e.g., Susan) is associated with facilitated access to evaluatively consistent traits (e.g., independent) as well as inhibited access to evaluatively inconsistent traits (e.g., gullible). They argued that by using valenced information in this manner perceivers are able to form coherent, consistent impressions of other people (e.g., Srull & Wyer, 1979; Asch, 1946). Therefore, when encountering a member of a target group whose stereotype contains a mix of positive and negative stereotypic material, information that is evaluatively consistent may be facilitated and information that is evaluatively inconsistent may be inhibited, so as to provide the perceiver with a clear-cut and coherent impression of a target group member (e.g., Perdue, Dovidio, Gurtman, & Tyler, 1990).

Quinn and colleagues used a retrieval-practice paradigm (Anderson, Bjork, & Bjork, 1994) to show that facilitation and inhibition effects operate when perceivers recall stereotypic information. Participants who activated stereotypes of a target group member produced greater recall not only for stereotypic trait words but also for other non-practised stereotypic trait words that were consistent in valence (i.e., a facilitation effect). In addition, as hypothesised, "the retrieval of non-practiced stereotypic items that were opposite in valence was inhibited" (p. 524). In Quinn et al.'s study, facilitation and inhibition effects appeared to operate separately for evaluatively conflicting aspects of stereotypes. As predicted, the researchers found that evaluatively consistent information that was the focus of perceivers' attention was facilitated, while evaluatively inconsistent information was inhibited.

Quinn et al.'s research provides some insight into how perceivers might deal with ambivalent stereotypic content; non-conscious facilitation and inhibition effects may eliminate some of the response conflict that occurs for holders of these stereotypes. Stereotypes that operate in an evaluatively consistent manner are valuable for perceivers as they try to reduce the inference of conflicting information (e.g., counter-stereotypic behaviour) or work with current goals or situational demands (e.g., engage in motivated reasoning). As a result, in their drive to achieve evaluative consistency, perceivers who hold inconsistent or ambivalent stereotypic information in memory may tend to generate "more extreme (positive or negative) responses to racial outgroup members than to racial outgroup members" (p. 526).

Facilitatory and inhibitory processes that affect the activation of stereotype content may operate to reduce the unwanted influence of inconsistent information that could interfere with coherent impression formation. These processes may therefore be more likely to come into play when stereotypes contain ambivalent information, and when positive and negative aspects of stereotype content are particularly high or low in either warmth or competence. Quinn et al. (2003) argue that the amplification of evaluative responses (e.g., facilitated recall of unpracticed or nonstereotypic positive or negative stereotype traits) provides a "boost to either positive or negative information in the response competition process, allowing one subset of beliefs about a social group to dominate the perceivers' thoughts and behaviours" (p. 526). Other stereotypic and nonstereotypic material that is evaluatively congruent, being judged as similarly positive or negative, may therefore be boosted or inhibited; this was observed in the current thesis where suppressors were more likely to report positively-valenced associations than negative for the African-poor target group, while the control group showed the opposite pattern of evaluative responses. This is a similar finding to that of Newman, Duff, Hedberg, and Blitstein (1996) who asked participants in their study to suppress both positive and negative traits of various friends and acquaintances. Suppressors used the suppressed traits more often than the control group in a subsequent impression-formation task, indicating that suppression can affect separate aspects of stereotypes. It is possible therefore, that post-suppressional stereotype rebound not only leads to increased

stereotypical thinking and behaviour, but also increases or decreases the strength of pertinent associations with negative or positive content in stereotypes. It seems that suppression processes may operate differently when people's stereotypes contain ambivalent content; suppression processes may cause suppressors to pay more attention to some aspects of their stereotype, and thus facilitate or inhibit information so as to develop an evaluatively-coherent impression. In this thesis, positive evaluations may have been boosted or amplified in suppressors who unconsciously strove to maintain evaluative consistency and thus generated more positive responses, stereotypic or not, than control group members.

Conclusion

In my research, implicit measures of rebound for the aid-related poor target group produced two unexpected findings: suppressors demonstrated a reverse rebound behaviour and produced longer response times for positive than negative stereotypic material. These findings are consistent with current rebound theory, which argues that, due to the effects of priming, suppressed stereotypes, and also their contents, become more accessible and are thus may be more influential upon thinking and behaviour. However, the results from this thesis differ from those produced in other rebound studies, in that suppression appeared to cause separate aspects of the stereotype to be differentially activated, an outcome perhaps due to the ambivalent content of people's stereotypes of the aid-related poor. In the next section I discuss the cognitive processes that underlie stereotyping and rebound, and consider how explicit and implicit processes operate in tandem to affect stereotype rebound.

Cognitive Processes in Stereotyping

Both conscious and unconscious processes interact to influence stereotyping and stereotype rebound, although the traditional view in social cognition emphasises a distinction between these two processing modes. Recent research shows that high level mental processes such as judgments can automatically occur in response to priming or

environmental cues, higher levels of mental processing becoming automatic, but more importantly, automatic processes can operate in a goal-directed, strategic manner: lower levels of processing can be strategic. In fact, Bargh and Morsella (2008) argue the "unconscious has evolved as a behavioural guidance system and as a source of adaptive and appropriate actional impulses" (p. 76). Evidence for goal-directed, unconscious processing was observed in this thesis, when implicit measures of stereotyping were used. Perceivers' interpersonal distancing behaviours and response times, related to positive and negative stereotypic trait words, may have been a reflection of immediate and unintended evaluation processes (Bargh & Morsella, 2008). In my research, cognitive and behavioural responses following suppression, those of interpersonal distancing and colour-naming response time measures, provide further support for the idea that unconscious cognitive processes can operate in a flexible and strategic manner, in that responses may reflect personal or situational demands.

Automatic Processes can be Strategic

According to Bodenhausen and Macrae's (1998) model of stereotyping, both facilitatory and inhibitory factors operate across all three stages of stereotypic processing: categorisation and stereotype activation, biased interpretation and discriminatory responses. Even at initial levels of processing, both categories (e.g., Dijksterhuis & van Knippenberg, 1995; van Knippenberg & Dijksterhuis, 2000) as well as the aspects of stereotypes, or traits, may be facilitated and inhibited in an unconscious manner (e.g., Macrae, Bodenhausen, & Milne, 1995; Perdue & Gurtman, 1990). For example, participants in Dijksterhuis and van Knippenberg's (1996) research were not only faster than the control group to respond to stereotypic attributes of 'soccer hooligans', but they were also slower to respond to nonstereotypic attributes. The researchers concluded that the activation of a stereotype "makes it difficult to access traits that contradict the stereotype" (p. 282).

As described earlier, theories of stereotype suppression maintain that suppressing stereotypes leads to the hyperaccessibility of those stereotypes; thus stereotypic thinking

is facilitated due to increased priming, either by the automatic monitoring process or because stereotypes are monitored by suppressors for personal or social reasons. In this thesis, suppression was found to lead to a difference between suppressors' response times for positive and negative information for the African poor target group. One possible explanation for these unexpected findings is that suppressors activated a wide range of positive traits (and inhibited a wide range of negative traits) and these were not all related to the African poor stereotype. Although this stereotype was activated selectively, activation may have spread to other traits, related by valence.

Quinn, Hugenberg, and Bodenhausen (2003) hypothesised that stereotypes could be organised in terms of valence, so that there is enhanced accessibility for words of the same valence (e.g., *popular* and *talented*) and reduced accessibility for words that are of the opposite valence (e.g., *stupid* and *aggressive*). Facilitatory and inhibitory processes thus function together to prevent inconsistent information from competing with the current focus of perceivers' attention; dealing with a range of positive and negative information can be cognitively effortful, time-consuming and confusing and may delay perceivers' decisions about judgments and behaviours. Quinn et al. (2003) contend that in their drive to achieve easily constructed and evaluatively consistent impressions, perceivers focus on a pertinent subset of the target's positively (or negatively) valenced stereotypic attributes and this focus of attention then acts to facilitate the recall of further positive (or negative) valenced information.

Support for this idea may come from comparing results from Experiment 4 with those from Macrae et al.'s (1994) Experiment 3, where stereotype suppression, measured with a lexical decision task, led to the hyperactivation of stereotypic trait words only. In contrast to Experiment 4 in this research, Macrae et al. presented participants with words that were stereotypic of skinheads (but were all negative in valence), negatively valenced matched distracters (irrelevant with respect to the category of skinhead), or non-words. Both suppressors and nonsuppressors in Macrae et al.'s Experiment 3 were faster to identify words that were stereotypic of skinheads than they were to identify distracter words, indicating that stereotypes of skinheads were accessible, but

suppressors were faster than nonsuppressors to identify words that were stereotypic of skinheads than they were to identify matched distracters, indicating that stereotypes of skinheads were hyperaccessible for suppressors only. Because all stimulus words were of the same valence in Macrae et al.'s study, perceivers were unlikely to use valence as a way of organising their stereotypes or interpreting stereotypic information.

By contrast, both stereotypic and non-stereotypic trait words used in Experiment 4 were of mixed valence (i.e., ambivalent content). Results from Experiment 4 provide support for Quinn et al.'s argument that ambivalent content in stereotypes may lead to the facilitation and inhibition of a range of other positive and negative words. It is also possible that because non-stereotypic trait words for the African poor target group in Experiment 4 were stereotypic of skinheads, some participants may have applied them to the category of African poor.

Suppression may have therefore led to a tendency for suppressors to *hyperactivate* positive material, even when it is not strongly associated with the stereotype, and simultaneously to *hyperdeactivate* negative trait words, even when they are not. In a similar manner, findings of reverse rebound in suppressors can be explained by their tendency to boost positively valenced words so that they were more hyperaccessible in comparison to those available to the control group. It seems that suppression may not only render stereotypes of the African poor hyperaccessible, but in the current experiments may also have led to the hyperactivation of positive evaluations, while simultaneously leading to the inhibition of negative evaluations. If, as proposed by Fiske, Cuddy, and Glick (2007), Chen and Bargh (1999), and Bessenoff and Sherman (2000), positive stimuli elicit corresponding motor actions, then reverse rebound may be the product of a hyperaccessible stereotype associated with predominantly positive trait attributions.

Conclusion

The facilitation and inhibition of information is important in social perception, as these cognitive functions allow perceivers to develop simple and clear impressions of others. Stereotypes that contain combinations of positive and negative stereotypic information could be confusing for perceivers and produce little guidance for subsequent judgments and behaviour. Because the suppression of stereotypes is effortful and may not always be successful, it makes sense that perceivers activate, even unconsciously, the aspects of stereotypes that contribute to clear impressions of others and inhibit the aspects of stereotypes that threaten these. When stereotypes are containing ambivalent, positive and negative information the drive to provide consistency and clarity may be even stronger for perceivers.

Ambivalent, rather than primarily positive or negative stereotypes, are more likely to exist for many target groups in society, particularly as people strive to behave towards others in a fair and unprejudiced manner. Findings reported in this thesis suggest that perceivers who hold ambivalent stereotypes may not only experience increased accessibility for stereotypic traits that are consistent with a desired impression, but they may at the same time activate additional evaluatively consistent information (Quinn et al., 2003). One outcome, recorded in Experiment 2, that may occur as a result of the facilitation and inhibition of consistent and inconsistent aspects of perceivers' stereotypes is that there may be a corresponding amplification of observed positive (or negative) behaviour. Theories of stereotype rebound may therefore need to take stereotype content into account.

Updating Theories of Stereotype Rebound

The dominant theory of stereotype rebound is Wegner's (1994) theory of ironic processes; as noted earlier, this model proposes that ironic outcomes, such as an increased incidence of an unwanted thought, are due primarily to the differential cognitive requirements for each of the two interactive processes. In this research however, if participants were able to control their stereotypical thoughts automatically,

so that the controlled operating process did not require higher levels of cognitive resources than the automatic monitor, rebound effects would not have been seen. An adequate supply of cognitive resources in participants that facilitated suppression may explain the lack of rebound in some of the essay-writing tasks. Because other studies, including Experiment 3 with the wealthy African target group, have observed rebound effects with essay-writing tasks, it appears that the content of perceivers' stereotypes of the poor may affect the likelihood of rebound when explicit measures are used.

Stereotype Content Affects Rebound

Findings in this thesis suggest that rebound effects may be valid indicators of stereotypic thinking and behaviour only when stereotype content, for example, ambivalent and evaluatively mixed attributes, is taken into account. Stereotype rebound theory must make room for the idea that social stereotypes are often not univalent, but tend to be a complex mix of attributes, ranging from good through to undesirable, associated with the target group member. Accordingly, stereotype rebound effects may not be straightforward (e.g., solely negative or simply increased levels of stereotyping) but may instead reflect the rebounding of different aspects of that stereotype. When stereotypes contain ambivalent content, as those of many social groups do, rebound effects may sometimes reflect the positive aspects of the stereotype and in other situations, the negative. Increased accessibility for different aspects of social stereotypes, such as evaluatively consistent information may play a highly functional role in social cognition. For example, facilitated and/or inhibited access to evaluatively consistent information may help provide immediate, fast and affective feedback about others in the environment and highlight relevant aspects of stereotypic information.

Automatic Evaluations

Automatic evaluations of others (e.g., the categorisation of targets as either positive or negative) provide fast, efficient feedback for the perceiver. Indeed, Zajonc (1980) argued that affective reactions are a primary response to stimuli that arise prior to

cognitive responses and originate from an independent cognitive system. Automatic evaluation has been researched within three paradigms: mere exposure, when frequent exposure to a particular stimulus leads to automatic evaluation (e.g., Monahan, Murphy, & Zajonc, 2000); automatic attitude activation, where automatic evaluation is thought to arise from previously formed and stored evaluations (e.g., Fazio, Sanbonmatsu, Powell, & Kardes, 1986); and affective priming, where affective associations may account for faster response times for affectively-congruent prime-target pairs (e.g., Murphy & Zajonc, 1993). To test for the existence of automatic, stimulus-based evaluation, Duckworth, Bargh, Garcia, and Chaiken (2002) conducted experiments using all three of these research paradigms. Their results showed that evaluative responding occurs in an immediate and unintentional manner for both novel and known stimuli. Duckworth et al. concluded that evaluative responding is fundamental in perception, affecting subsequent judgments and social interaction, and that all experience is "continually evaluated as either positive or negative" (p. 518). Because evaluation plays an integral role in person perception, such as driving approach or avoidance behaviours, the evaluative aspects of social stereotypes are likely to be affected by suppression attempts and impact the effects of rebound.

Stereotype Valence influences Attention

Information about people and objects in the environment may be evaluated as either positive or negative, but, in the mind of the perceiver, positive or negative information is not weighted equally. In person perception, negative information tends to attract more attention from perceivers (e.g., Fiske, 1980); it makes sense that people pay immediate attention to hostile stimuli. Perceivers seek to understand others and use negative data to guide their impressions (e.g., Crisp & Nicel, 2004). Skowronski and Carlston (1989) argue that negative information about others is highly diagnostic, sometimes violating perceivers' expectancies and helping to determine an overall evaluation of the person. Whether or not perceivers activate, apply and even suppress their social stereotypes may depend upon the valence of information contained in the stereotype. The research in this thesis also suggests that rebound tends to exacerbate differences between positively and

negatively valenced information, by leading to increased accessibility or inhibition of material that is evaluatively consistent or evaluatively inconsistent.

Stereotype Priming and Stereotype Rebound

The idea that different aspects of the stereotype could be facilitated or inhibited by suppression is consistent with the suggestion that priming mechanisms can explain stereotype rebound. When Wegner et al. (1987) asked participants to suppress their thoughts about a white bear, participants were asked to control a discrete thought; in contrast, the day in the life writing exercise used in stereotype suppression studies is creative, inviting participants to expand upon rather than control their thinking. Monteith, Sherman, and Devine (1998) suggest that instead of directly controlling a specific thought, participants may tend to monitor the expression of their stereotype. Stereotype suppression and rebound may therefore be explained by priming; by constantly accessing stereotypic information in memory and monitoring it before expression, participants unintentionally prime the unwanted stereotype (Newman et al., 1996; Dumont et al., 2003).

Macrae et al. (1994) also argue that the frequent activation of the unwanted stereotype is likely to result in increased accessibility so that stereotypes become hyperaccessible, just as predicted by the ironic process theory. They propose that stereotype accessibility is enhanced because suppressors, in an attempt to monitor stereotypic content in their minds, activate the unwanted construct repeatedly, even if at low levels. According to the synapse model of construct accessibility, therefore, "the action potential of the construct decays more slowly for suppressors than for nonsuppressors" (Macrae et al., 1994, p. 810). Recently primed constructs are more accessible than those primed earlier, and the more frequently the primed concept is used, the "stronger the accessibility, and the longer the duration of its heightened accessibility" (Moskowitz, 2005, p. 403). However, this theoretical approach to stereotype rebound also seems to regard stereotypes as a unitary concept that does not take into account mixed stereotype content. Suppressors' approach behaviours and slower response latencies for positive

trait words suggest that specific aspects (e.g., evaluatively consistent attributes) of their stereotypes of the aid-related poor were more available in memory than those of the control group. In another context or situation (e.g., Wittenbrink, Judd, & Park, 2001) or when perceivers' goals or motivations are at variance (e.g., Blair & Banaji, 1996) other aspects of the suppressors' stereotypes might become accessible: perceivers looking for reasons to opt out of volunteering or making donations might emphasise the negative aspects of their stereotypes. Therefore rebound effects may produce different stereotypic responses according to stereotype content, and according to which aspects of this content are rendered more accessible in a particular context.

Conclusion

Stereotypes differ from discrete thoughts in that the former affect cognition in powerful ways, such as providing expectancies and highlighting inconsistencies. Results from Experiments 2, 3, and 4, where suppressors unconsciously demonstrated evidence of stereotypic behaviours, suggest that stereotype suppression has rendered not only stereotypic material, but also associated stereotypic-linked responses, for example, behavioural tendencies of approach/avoidance, more accessible. Seating positions and response latencies for colour-naming of trait words found in this research provide further evidence that aspects of stereotypes can become hyperaccessible following suppression, but these results illustrate how rebound effects vary according to the *content* of perceivers' stereotypes.

Further Research into Stereotype Rebound

Multiple Categorisation

Images used in the current experiments, although typical of aid advertisements in general, represent only a small number of African poor people. Images are powerful, conveying large amounts of information in a succinct manner, but because they leave room for inferences and leave stories untold may not always accurately or completely represent the whole situation (Moeller, 1999). Care was taken to ensure that images

selected for the current experiments presented the aid-related poor in a balanced manner, showing that despite obvious poverty there was evidence of self-reliance and self-determination. This research used images of youths and young men, but it is possible that if images of African women, for example, had been used, results may have been different, for instance in warmth and competence ratings. Images provide expectations and lead viewers to decode different meanings from one picture so that for some people, African women may represent mothers and metaphors for caring while African men may be associated with warriors and metaphors for warlike and power. The aid-related poor target group can also be categorised in multiple ways, for example in terms of gender, race or economic standing. The results of the current research have been interpreted in the light of a poor/wealthy categorisation and are relevant only in terms of the images used. Future research may need to clarify which category is dominant in perceivers' thinking, and should also include a wider range of images.

Initial categorisations are also affected by variations in the social context, where salient factors can lead individuals to be differently categorised (e.g., Ford, Stangor, & Duan, 1994; Wittenbrink, Judd, & Park, 2001). When a poor individual is portrayed in a domestic situation, categorisation may be made in terms of poverty, whereas a poor individual portrayed in a warlike environment may lead perceivers to categorise a person in terms of their role as a fighter or refugee. People are also less likely to categorise target group members spontaneously using negative and stereotypical traits when they are observed in situations that may be outside their control (situational causes) than when they are observed in situations for which they could be seen to be responsible.

In this thesis, explicit and implicit measures of stereotyping revealed rebound effects in different ways. While explicit measures of stereotyping did not always show significant differences between suppressors and nonsuppresssors, implicit measures did produce these differences. Results suggest that for some target groups in society, such as the aid-related poor, explicit measures of stereotyping may be confounded by perceivers' self-presentational responses. Explicit and implicit measures could also tap different

components of the stereotype and thus produce different results. For example, implicit measures may be better predictors of spontaneous judgments and nonverbal behaviours (e.g., Fazio, Jackson, Dunton, & Williams, 1995) while explicit measures may be better predictors of preferences and behaviour (Karpinski & Hilton, 2001). In future research, researchers may need to consider which measure is appropriate for the target group under observation and the context in which stereotypic thinking and behaviour is taking place. (For extended discussion on stereotyping in aid advertising, see Chapter 7).

A Social Neuroscience Approach

Further research into stereotype suppression and rebound might make use of the more comprehensive approach provided by social neuroscience; this field combines a biological approach with research from cognitive and social science, and investigates relationships between neural and social processes. For example, Mitchell, Heatherton, Kelley, Wyland, Wegner, and Macrae (2007) combined cognitive and neural models of cognitive control to show that two distinct cognitive processes involved in suppression proposed by Wegner (1994, 1997) are supported by changes in brain activity for the prefrontal cortex (PFC) and the anterior cingulate cortex (ACC). Participants who were scanned with functional magnetic reasoning imaging (fMRI) were asked to either suppress thoughts about a white bear or to think freely about anything. Data showed that the PFC, an area associated with response inhibition, was activated during periods of thought suppression, whereas the ACC, associated with conflict detection, was activated with occurrences of unwanted thoughts. Further research could use this methodology to examine suppression for unwanted stereotypic thoughts, perhaps with target group members whose stereotypes contain ambivalent information. This biological approach may also shed some light onto which specific processes underlie stereotype suppression, given that priming mechanisms, rather than monitoring and operating processes, may account for some stereotype rebound results. Further research might use this methodology and ask participants to suppress a social stereotype (i.e., a mix of attributes, beliefs and evaluations) rather than a discrete thought.

In a similar study, De Neys, Vartinian, and Goel (2008), using fMRI, showed that both neural regions (PFC and ACC) were activated when people made decisions about problems where heuristic, stereotypical thinking was likely to lead to an inappropriate response, that is with base-rate information neglected. Activity in the ACC, the conflict detection area, indicated that participants had indeed sensed a conflict between competing responses. Activity recorded in the PFC, the response inhibition area, when participants made intuitive stereotypical responses, using heuristic thinking suggested that they seemed to know that their intuitive responses were not valid. Because participants activated both brain areas when making stereotype-based responses, the researchers concluded that people do not fail to detect bias in their thinking, but are apparently unable to inhibit intuitive responses. This study provides evidence for the idea that stereotypical thinking may occur for some perceivers despite their commitments to avoid bias. In addition, if perceivers do detect conflict between stereotypical thinking and normative reasoning early on in processing, it seems likely that they may subsequently attempt to exert control or suppress these unwanted thoughts.

Many recent studies have used various forms of physiological data to assess stereotypical thinking and social behaviour. For example, Phelps et al. (2002) measured activation in the amygdala, using fMRI, in participants' responses to Black and White faces. Their study showed that amygdala activation was different for Black and White faces and significantly correlated with indirect behavioural measures of face bias (i.e., eye blink startle response and Implicit Association Test). Lang, Greenwald, Bradley, and Hamm (1993) used a series of physiological measures to examine how imagery affects attention, arousal and negative emotional valence. They used fEMG (facial electromyography) to show that the zygomaticus and corrugator muscles were reliably associated with affective valence judgments. To test for a negativity bias that might operate at an evaluative-categorisation stage, Ito, Larsen, Smith, and Cacioppo (2002) presented participants with pictures that were positive, negative and neutral in valence, with stimuli from one evaluative category occurring more frequently than others. Event-related brain potentials (ERPs) were used to measure evaluative processing; ERPs result

from electroencephalogram (EEG) measures of neuronal activity and generated electrical potentials that occur in response to specific stimuli events. Results from two experiments showed that participants were more sensitive to negative stimuli, showing ERPs of greater amplitude, than to equally evaluatively extreme positive stimuli. Further research can build upon studies such as those described above and work with a social neuroscience approach to extend findings from this thesis. Images of stereotyped target group members could be used as stimuli to provide evidence of positive and negative evaluation at levels of categorisation. Using biological measures in conjunction with cognitive and social theory may reveal more about the processes involved in stereotyping, suppression and rebound.

Limitations

In this research project, people who were instructed and were able to suppress their stereotypes of the developing-world poor subsequently appeared to behave differently from those who did not suppress. However, an important limitation of the methodology used was that in all but one experiment, suppressors were not significantly differentiated from non-suppressors in the writing of their first narrative essays. As a result, suppressors' subsequent responses could not be confidentl
y attributed to cognitive processes of stereotype suppression. As mentioned earlier, the single index of stereotypical phrasing in essays may not have been sensitive enough to measure the differences in stereotypic writing between suppress and control groups. In addition, because participants were writing about an African poor target group rather than skinheads or African Americans, the task instructions may not have had the same effect as in experiments using these target groups. Specifically, the control group may have been reluctant to write stereotypic stories about the aid-related poor and thus the difference between stereotypic phrasing in the essays of suppressors and nonsuppressors would have been small and hard to detect indicating that a larger sample size would be needed. However, higher levels of stereotypic thinking (a possible rebound effect) were clearly seen in implicit measures, suggesting that the self report methodology used,

rather than the suppression process itself, was responsible for the lack of a detectable difference between suppressors and nonsuppressors.

Motivations to Behave Without Prejudice

Although effect sizes were modest in this research, it is possible that stereotype rebound effects may be stronger in viewers of television aid advertisements. One limitation in this research was that the participants taking part in the experiments were asked to interact, in the laboratory, with a member of a target group that people may prefer not to openly stereotype. Participants were university students (a subset of the general population) who were not only likely to reject stereotypic thinking but also to be reluctant to express such thinking in presence of other like-minded people. Low-prejudice people have been shown to be less likely to activate stereotypes (e.g., Lepore & Brown, 1997) and feel more guilty than high-prejudice people as a result of having discrepancies between behaviour and egalitarian goals (Plant & Devine, 1998). As many students in the psychology school were likely to be low in prejudice and also practised at monitoring the expression of stereotypical thinking and behaviour, it could be argued that salient personal and social norms against stereotyping may have restricted findings. Indeed, as noted, current findings were mostly derived from implicit, rather than explicit, measures of rebound. As a result, individual differences in motivations to be unprejudiced, in combination with the university context, together may have minimized chances of obtaining significant results. For many viewers of aid advertisements in the real world, stereotype rebound may be more prevalent.

Individual Differences in Suppression

This research did not focus on the individual differences that could affect suppression attempts and avert rebound effects in perceivers. Such factors as perceivers' emotions and mood, intelligence, education, and ability to suppress information (Rutledge, Hancock, & Rutledge, 1996) may all have affected suppression strategies and rebound findings. For example, perceivers' emotions can affect cognitive and also suppression

responses to aid advertisements, leading perceivers to respond to aid advertisements in some way, for instance donating, that improves their mood and makes them feel better (Andrade & Cohen, 2007). Individual differences in suppression abilities could also affect results. Rutledge, Hollenberg, and Hancock (1993) found that of the 84 subjects in their Experiment 2, only 16 (or 19%) were classified as rebounders. Rutledge et al. defined them as participants who had experienced at least a 50% increase in their thoughts during the expression, rather than the suppression, period relative to the baseline period. If, in my research, there was a similar proportion of rebounders, with only 20% experiencing suppression-induced hyperaccessibility of their stereotypes, rebound effects may have occurred only for a limited number of people. More evidence for stereotype rebound may be observed when the population under consideration contains a high rather than low proportion of rebounders.

Recommendations for Further Research

The present studies raise important questions for further research. There is considerable theory and research showing that thought suppression is a favoured and intuitive strategy used by perceivers in a wide range of everyday situations (e.g., Erskine, 2007). Results from this research have shown that it is very likely that viewers of aid advertisements who suppress their unwanted stereotypes of the poor will experience heightened stereotype accessibility and thus biased perceptions and behaviours. More work is needed to extend this particular research scenario to examine whether people's stereotypes of the poor are affected, for example, if attributions or judgments of warmth and competence change when viewers are asked to assume responsibility or to take action in the form of donations or volunteer efforts.

Most research into stereotype suppression has focused on social outgroups that elicit primarily negative evaluations in perceivers. Indeed, in the aid advertisement scenario, it was expected that images of the aid-related poor would lead viewers to rely upon the negative, rather than the positive, elements in their stereotypes (Carr & Atkins, 2003).

Relatively little research has examined the impact of positive information contained in social stereotypes upon the perceiver's judgments and interactions with others. Questions arise about the positive material contained in social stereotypes; for example, does positive material tend to be frequently overshadowed by negative material, how does positive material affect perceivers' judgments and behaviour, and, is positive material weighted less than negative material across all social stereotypes? For aid advertisers, it might be helpful to know which particular images are associated with judgments of warmth so that these could be included in aid programmes. Similarly, it is important to identify those images of the aid-related poor that preclude positive responses from viewers and why they do this. For example, continually publishing distressing images leads viewers to feel that a situation is sad but hopeless (Glasgow Media Group, 2000). Moeller (1999) argues "moral fatigue and exhausted empathy is, to some degree, a survival mechanism" (p. 53); by adapting a take-it-or-leave it attitude people can better cope with images of suffering. Such passivity is known as compassion fatigue.

Of course, it is important to know if positive judgments of the target group actually predict prosocial behaviours in perceivers, resulting in donations and help. Research has shown that a chain of cognitive events, such as stereotype activation, suppression, and rebound effects can all occur automatically for many perceivers; that is, without awareness, intention or effort. However, when perceivers subsequently engage in deliberative and analytical thought, they may make rational decisions that maximise their own benefits and minimise costs. Lerner, Miller, and Holmes (1976) found that although people are strongly committed to eliminating injustice, they are simultaneously committed to protecting what they have. If so, behaviours such as exclusion and neglect may be the disappointing outcome of unconscious positive responses to aid advertisements.

Thought suppression and rebound effects are also prevalent in a wide variety of clinical situations. Because people appear to use suppression techniques intuitively, further research that identifies individual differences in suppression, such as personality and

intelligence, will be important. It is possible that some people may be highly susceptible to rebound effects, and even more so in specific situations as when normative standards are highly salient.

Results from experiments in this research indicate that implicit tasks may have tapped the warmth dimension in stereotypes. Further studies could be designed to measure judgments of high and low competence for the African poor stereotype. Judgments of competence such as intelligence, confidence, and independence are likely to be less susceptible than warmth judgments to self-presentational biases and therefore both implicit and explicit measures could be used. Perceivers may adjust warmth judgments as they are based upon traits related to intent, such as friendliness, sincerity and trustworthiness, and determine negative or positive impressions (Fiske, Cuddy, & Glick, 2007). When perceivers make negative judgments of others, they may wish to change their response or take steps to control their thinking or behaviour. Results from the studies in this thesis did not clarify whether dissociation exists between stereotypes at an implicit (i.e., introspectively inaccessible) and explicit (introspectively accessible) level; however implicit and explicit measures of competence judgments may be able to do this.

A follow-up experiment to Experiment 4 could explore the differences in perceivers' facilitation for positive and negative trait words in terms of warmth and competence, using a new independent variable: the levels of warmth in traits. The hypothesis of this experiment would be that suppressors would be slower to name the colour of stereotypic trait words that were warm/positive and competent/negative, thus showing evidence of a hyperaccessible ambivalent stereotype of the African poor. In contrast, nonsuppressors would be slower to name the colour of stereotypic trait words that were in combinations of competent/positive and warm/negative. Results from this experiment may provide further support for Fiske et al.'s theories about ambivalent stereotypes that contain opposing levels of warmth and competence. This experiment could also extend and give support to the findings of this thesis: specifically, that stereotype rebound is moderated by stereotype content and that suppression may affect not only stereotype accessibility but also associated behaviours and judgments.

In conclusion, I believe that stereotype rebound is a possible outcome for viewers of aid advertisements who suppress their stereotypes of the developing-world poor. However, the experiments described in this thesis suggest that rebound effects for the aid-related poor target group may not be as clear-cut as those recorded for other target groups. Because stereotypes of the African poor target group contain ambivalent stereotypic content, increased levels of stereotypic thinking and behaviour may include amplified or boosted information that could reflect either positive or negative aspects of the stereotype. It seems likely, although my research did not address it, that suppression might lead to different aspects of perceivers' stereotypes also being amplified or inhibited in accordance with the context and the perceiver's current goals.

An important caution is that findings from experiments may not generalise to everyday behaviour and particularly to the viewer's actual responses to aid advertisements in the real world. My experiments examined stereotype activation and application in relation to viewers' initial reactions to images only, an entire aid advertisement not being presented to participants. Different factors could come into play when viewers are asked to actually make decisions about donating. People tend to quickly assess and respond to people in a preconscious manner (Epstein, Lipson, Holstein, & Huh, 1992), but when decisions need to be made, reasoning is often characterised by slow, conscious thinking. In this research therefore, stereotype activation and application was observed only in a limited context, perhaps pertaining only to the first few seconds of an aid advertisement. A more complex experiment might include a longer exposure to stimuli and require participants to make decisions about stereotyped target groups, as well as demonstrating in some way their intentions to either ignore or to help. In the following chapter, I discuss the implications of the results from this thesis for aid advertising.

Chapter Seven

General Discussion 2:
Stereotype Rebound and Aid Advertising

In this final chapter, I consider the implications of experimental findings for aid advertisers and for viewers of aid advertisements. I suggest that the ambivalent content of people's stereotypes of the aid-related poor is a double-edged sword; viewers of aid advertisements may use either the positive or negative aspects of their stereotypes when making judgments of target group members. Moreover, results from experiments in this thesis show that suppression tends to amplify or boost aspects of stereotype content, further affecting viewers' stereotype-based responses. Aid advertisers therefore need to produce a carefully balanced representation of the developing-world poor that will elicit positive rather than negative responses from perceivers. Aid advertisers may also need to develop a comprehensive understanding of stereotyping, including not only stereotypic processes and content but also how stereotypes of the developing-world poor function in the social world. Finally, I acknowledge the limitations of examining only one aspect of cognition in aid advertising (i.e., stereotypic processes) as other decision-making processes also affect donation outcomes.

An overpowering problem, international poverty can never be properly addressed or changed in any way unless researchers know more about people's thoughts, feelings and behaviours towards individuals in poverty. The current research project is only a beginning, and perhaps the first to examine the content of people's stereotypes of the developing-world poor. Experiments in this research examined stereotype activation and stereotype rebound for a target group that has hitherto not been included in stereotype research. While experimental findings in this thesis may have been compromised by

small numbers and participants were likely to be low in prejudice, the results were encouraging and demand follow-up. There was consistent evidence of stereotype rebound for the African poor target group in the form of heightened stereotypical thinking and behaviour, indicating that suppressed stereotypes, or aspects of them, had indeed become hyperaccessible. Experiments in the current thesis that used implicit measures of rebound produced evidence of quick, efficient stereotype-related responses that were unexpectedly positive, those of approach behaviours and positive evaluative judgments. However, like those of many other social groups, stereotypes belonging to the poor African target group contain ambivalent content, stereotype content that may be differentially activated in response to variations in the context and according to the perceiver's current goals.

Stereotypes of the Developing-World Poor are Ambivalent

The vast majority of research on stereotyping in the social domain has focused upon the harmful implications of this cognitive process, such as prejudiced thoughts, feelings, judgments and actions. Less effort has been focused on the consequences of social stereotyping where stereotypes contain *ambivalent* content or a mix of both positive and negative elements. Results in my research show that stereotypes of the developing-world poor are indeed ambivalent, and thus may act in the aid advertisement scenario as a 'double-edged sword', allowing perceivers to work with either positive or negative stereotypic beliefs. An important implication of ambivalent stereotypic content is that while perceivers may outwardly demonstrate egalitarian principles they simultaneously retain undisclosed negative attributions and beliefs towards members of the target group. Such stereotypes are paternalistic, reflecting both high and low levels of warmth and competence, and may, in the case of the developing-world poor, combine elements of caring and helpfulness with a lack of respect (Glick & Fiske, 2001).

According to Cuddy et al. (2007) paternalistic stereotypes, although they show evidence of active helping also contain competence judgments and related behaviors that can lead to the neglect and exclusion of others. Evidence for judgments of high warmth and low

competence in the African poor target group was seen in post-hoc analyses of essays written in Experiment 3. Research has also shown that some types of sympathy for others are associated with responses such as inaction and avoidance; for example, perceivers may reject appeals to aid starving children (Green & Sedikides, 1999; Roseman, Wiest, & Swartz, 1994). In the current economic climate, paternalistic attitudes may provide perceivers with justifications for not donating to aid appeals. Low competence judgments of those in developing countries may also allow perceivers to focus instead upon personal issues of employment and the economic problems that are starting to surface at home. As a result, for the disadvantaged social group, in this case the poor, nothing ever really changes.

Ambivalent Stereotypes - Good or Bad?

At first glance, the positive evaluative content of stereotypes of the aid-related poor is encouraging; if viewers' stereotypes rebound, then increased levels of stereotypic thinking may lead directly to more pro-social and helping behaviors (Cuddy et al., 2007). According to this line of thinking, the most effective aid advertisements will be those that use images to create empathy (perspective-taking) and promote positive warmth judgments of honesty, sincerity, and kindness. Indeed, aid agencies seem to recognise the power of emotion, consistently using images that have emotional pull to evoke feelings of pity in viewers (Winter, 1995). Surprisingly therefore, more positive and desirable responses might be elicited from viewers of aid advertisements, because of, rather than despite, stereotypic thinking.

Findings from my research also provide some support for a move towards positive psychology (Gable & Haidt, 2005); perceivers' preferences for approach behaviour and positive judgments of target group members suggest that some stereotypes are associated with positive rather than negative attitudes. The traditional focus on prejudice in social cognitive psychology may mean that research has overlooked the positive aspects that exist in some stereotypes. As a result, negative stereotypic judgments are seen as more diagnostic of target people, although they may not always be the norm

(Gable & Haidt, 2005). Further research that looks at stereotype content for a wide range of target groups may provide a starting point from which to examine positive psychological factors such as resilience, strength, and virtues that exist in the stereotypes of some social groups.

An alternative, less desirable, possibility is that the positive evaluative content of perceivers' stereotypes of the poor may serve only to mask more negative, but no less powerful, judgments of incompetence. By constantly presenting viewers with desperate and needy images of the poor, aid advertisers perpetuate an untruth; large numbers of television viewers (Winter, 1995) continue to conceive of the developing world as chaotic and poverty-stricken and consider most of their inhabitants to be starving, sick, unskilled, and unable to help themselves. Aid advertisements that continually portray the developing-world poor as needy and needing help encourage stereotypic thinking in perceivers; unfortunately stereotypes can provide the perceiver with reasons that justify the differences that exist between the developing and developed world (see later discussion on this approach.)

Stereotypes (and subsequent judgments and behaviours) are also affected by suppression; in this research, suppression appeared to affect specific aspects of stereotypes and cause them to become hyperaccessible. Specifically, evaluatively consistent information appeared to be boosted by suppression; this information was more likely to be more influential in subsequent information processing than information that was not suppressed. Therefore the *content* of social stereotypes may determine how post-suppressional rebound affects perceivers' judgments and behaviours.

Closer attention to the content of people's stereotypes, as in my research, may be essential to uncover beliefs and attitudes towards subgroups in society. Current and up-to-date research is needed for specific social groups as over the last few decades the content of many social stereotypes has changed; attitudes towards social groups such as gay people, people with metal illnesses and disabilities, women and racial groups, are

different and in some cases more positive (Dovidio, Brigham, Johnson, & Gaertner, 1996). Importantly, stereotypes of the aid-related poor appear to contain attributions and beliefs that are different from those of the poor presented in the stereotyping literature.

Diverse Stereotypes of the Poor

In both the literature and the media, people in poverty appear to have been unilaterally stereotyped in a negative manner, and often seen as unequal, dysfunctional and lacking in strengths, skills and wisdom (Lott, 2002). Unlike welfare recipients in the USA (Fiske et al., 2002), the African poor target group does not appear be in the low warmth/low competence cluster, suggesting that they may be a subgroup of a superordinate group of poor people. Stereotypes of the poor 'at home' are often viewed "as deserving their fate because of laziness or destructive lifestyle" (Lott & Bullock, 2001, p. 201), whereas stereotypes of the African poor may contain both positive and negative attributions (Experiment 4). If perceivers are more likely to make positive judgments about the African poor they may be more supportive of those in developing countries (Glasgow Media Group, 2000), an indication of multicultural tolerance (Clausell & Fiske, 2005).

In the following section I discuss the implications of experimental findings for the producers of aid advertisements and consider how stereotyping and rebound could affect viewer's responses to aid advertisements.

Implications of Thesis Findings for Aid Advertisers

A number of important findings in this thesis could affect how aid advertisers produce their fundraising appeals and present images of the aid-related poor. First, cognitive processes of stereotyping and rebound (increased stereotyping), invoked by images in aid advertisements, are likely to affect viewers' judgments of and behaviours towards members of this target group. Second, because stereotypes of the developing-world poor contain ambivalent content, stereotypic information used in information processing,

whether positive or negative, may depend upon salient aspects of the context (Wittenbrink, Judd, & Park, 2001) and perceivers' current goals (Blair & Banaji, 1996). Therefore, aid advertisers may need to carefully balance their presentation of the aid-related poor in terms of stereotypic images and context so that positive and warmth-related aspects of people's stereotypes are more likely to prevail. Below, I explore the implications of findings from this thesis for aid advertisers. In particular, I suggest that aid advertisers can shape stereotype processes in viewers by 1) eliciting stereotypes and stereotype suppression, 2) influencing stereotype content, 3) influencing stereotype context, and 4) influencing viewers' goals.

Aid Advertisements Elicit Stereotypes and Stereotype Suppression

Earlier in this thesis, I have argued for the automatic activation of perceivers' stereotypes in response to situational cues in the environment and their subsequent influence upon judgments and behaviours (e.g., Blair & Banaji, 1996; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Lepore & Brown, 1997). For viewers of aid advertisements, their stereotypes of the developing-world poor are likely to be well entrenched, due to constant media presentations and the emotive content typically contained in the advertisements. Aid advertisements also prime stereotypical thinking in viewers by using named individuals (e.g., "Maria is going to school today") who are presented to viewers as fellow-human beings who deserve the same chance as anyone else. Perhaps aid agencies present named individuals in an attempt to discourage stereotypical thinking in viewers; however, this strategy could backfire in that viewers are likely to be primed by the name and image so that atttributes of their stereotype readily spring to mind. The automatic activation of this stereotype may lead to suppression attempts in viewers who wish to avoid feelings of guilt or helplessness and/or stereotype-related biases.

Motivated suppression has been shown to occur in a wide range of situations either consciously (e.g., Fiske & Neuberg, 1990) or unconsciously; perceivers appear to spontaneously suppress stereotypes without explicit instructions (Rudman, Ashmore, &

Gary, 2001; Wyer, Sherman, & Stroessner, 1998) indicating that suppression is a practical cognitive strategy practiced by perceivers outside the laboratory. Thus, it is reasonable to expect that viewers of aid advertisements may regard the suppression of unwanted stereotypes as a practical and effective control strategy. Suppression attempts are likely to follow the presentation of crisis images or emotionally upsetting pictures. However, unless they have sufficient cognitive capacity to remain focused upon maintaining suppression despite environmental distractions, or have had extensive suppression practice, so that it occurs automatically without effort (Moskowitz et al., 1999; Richeson & Ambady, 2001), rebound effects are likely to follow. However, when suppression serves to boost or amplify those aspects of the stereotype that lead to positive judgments and behaviour, rebound effects may not be an undesirable outcome.

Aid Advertisers Can Influence Stereotype Content

It is fortunate that aid advertisers, as major information sources of the developing world, can define their own 'story' by choosing an appropriate image and context for their message. By producing advertisements that use images, contexts and narratives promoting positive aspects of people's stereotypes of the poor, aid advertisers may have some influence on which attributions and beliefs viewers use to maintain their stereotypes of the aid-related poor. Instead of employing consistent presentations of need and poverty, Moeller (1999) suggests that the media should make a greater effort to tell it "how it is", reporting "the bad and good, evil and inspiring, horrific and joyous" (p. 322). This thesis shows that even if viewers continue to rely upon their stereotypes of people in poverty, stereotyping is a not an undesirable reaction if stereotypic material is associated with positive attributes and empathic attitudes. Aid advertisers could foster positive attributions by using images of African poor that emphasise such aspects of warmth as tolerance, sincerity and good-naturedness, that encourage perspective-taking and sympathy in viewers. In particular, aid advertisements could emphasise situational factors so that viewers are more likely to identify and empathise with people in poverty and less likely to blame human action or inaction. Further research, perhaps using web-based participation, that measures actual donation behaviour in response to images

eliciting different levels of warmth and competence judgments can provide further information.

Aid Advertisers can Influence Stereotype Context

The context surrounding images of the poor in aid advertisements may also determine which aspects of stereotypic material are predominant in information processing. Research shows that perceivers often employ stereotypic information in a meaningful way; they use stereotypes not only to simplify and streamline perceptive processes, but also to ensure that their judgments and actions are appropriate (e.g., Swan & Wyer, 1997). Whether positive or negative stereotypic material is activated may depend on the context or situation in which the image is encountered and thus form part of an event schema, functioning to provide expectations for the perceiver and to guide behavioural decisions (Wyer & Srull, 1989). For example, a poor individual from a developing country portrayed in a context of need, deprivation and desperation may evoke a stereotype in viewers that is very different in content from that of one portrayed working diligently alongside others. The resultant stereotype, a person-situation configuration, may be activated in response to features in the environment rather than solely in response to attributes of the person. Viewers' expectations and consequent behavioiur may be jointly determined by attributions both made about the target person and elicited by environmental cues (Reid & Wyer, 1998).

Aid Advertisers can Influence Perceivers' Goals

Research shows that people are likely to identify attributes in target group members that best fit in with their current goals (Fiske & Neuberg, 1990). Results from this thesis support this view; perceivers appeared to use a wide range of evaluatively consistent information in their judgments of a target group member, even when some of that material was not judged as stereotypic. Viewers of aid advertisements appealing for donations may therefore have specific goals that determine which aspects of their ambivalent stereotypes of the poor become activated. One possible psychological strategy that aid advertisers might use is to produce advertisements that facilitate the

development of shared or superordinate goals in viewers. A superordinate goal is one that is "difficult, time-consuming and complex and that is beyond the capacity of one person" (Keyton, 2005, p. 7). Such a goal may override personal or individual needs (Sherif, Harvey, White, Hood, & Sherif, 1961) and may lead to feelings of empathy when perceivers take on the perspective of others (Batson, Ahmad & Stocks, 2004). Aid advertisers need only look to the global response from people to create a greener and more sustainable planet to observe the power of a superordinate goal. A vision of a world where there is adequate nutrition, healthcare, housing and education for everyone should have the power to unite and inspire many people.

Stereotypes in the Social World

It is also important to consider the communication strategies used by aid agencies in the light of social cognitive theories, for example social identification (e.g., Tajfel & Turner, 1986) and social dominance (e.g., Sidanius & Pratto, 1999). In addition to providing understanding and information about others, stereotypes of other groups can also provide reasons and arguments to justify both action and inaction (Jost, 2001). Recent research shows that ambivalent stereotypic content can be used to justify and legitimise the perceivers' social world. According to Jost and Banaji (1994), stereotypes of social groups can serve to fulfil a system-justifying function of rationalising the status quo. By stereotyping members of outgroups as less intelligent and more dependent perceivers are able to rationalise the inequality that exists in the belief that the poor and disadvantaged exhibit lower levels of effort or motivation. Thus, inequality among social groups is accepted and perpetuated.

System justification is thought to operate most readily at implicit, nonconscious levels of awareness (implicit stereotyping) and is facilitated by stereotypic thinking. Although results from Experiment 4 demonstrate a mix of positive and negative judgments for the poor target group, it is possible that negative judgments of low competence may fulfil a system-justifying function in viewers. For example, viewers of aid advertisements who assume the perspective of those in poverty and feel a need to accept responsibility may

make judgments of not only high warmth but also of low competence. The contents of this stereotype then serve as a justification for the economic differences between the perceiver's and the target's group, and may provide a rationalisation for why the viewer does not move to change the inequality. According to Jost and Hunyady (2005) stereotypes provide support for the unequal distribution of wealth and resources "whether they are consciously endorsed or not" (p. 264).

Similarly, people's stereotypes of those in poverty are also affected by their commitment to maintaining social boundaries and keeping less valued groups at the lower end of the social hierarchy. A social dominance orientation (SDO) refers to people's chronic motives to maintain superiority of their social group (Sidanius & Pratto, 1999). Perceivers' judgments of low competence of the African poor may provide reasons and arguments that justify both their action or inaction and give further support for the belief that people "get what they deserve and deserve what they get" (Jost, 2001, p. 90). Therefore, although viewers of aid advertisements might express sympathy and concern (judgments of warmth), the explanations and theories contained in their stereotypes may mean that viewers do not subsequently respond in a proactive manner to these advertisements. By providing perceivers with explanations, rationalisations and justifications for the way social groups differ, stereotype-based thinking and behaviour (especially when stereotype content is negative) could easily stand in the way of poverty reduction efforts, perpetuating rather than dissolving the widening gap between the rich and the poor.

Decision-making and Donations

It is possible that judgments of low competence for the African poor target group are made later in cognitive processing when perceivers use a more rational and deliberative thought process. Warmth judgments are made before competence and according to Fiske, Cuddy, and Glick (2007), are more likely to influence subsequent behaviour. Although perceivers' stereotypes of the African poor target group appeared to contain judgments of high warmth in the laboratory, viewers of aid advertisements may make

different judgments since they are usually required to make decisions that could cost them money or time. For example, those viewers who wish to protect what they have, who want to avoid taking responsibility for others or who reason why they are not going to respond to an appeal, may instead emphasise the negative aspects of their stereotypes of the African poor, making judgments of low competence. Although most people prefer to think that they live in a "just world" (Lerner & Miller, 1978), aid-related appeals and images of those in severe poverty can damage this belief, and may lead to negative stereotypic judgments, such as 'blaming the victim' (Weiner, 1993).

On the other hand, positive and high warmth judgments and evaluations of the African poor target group may only be part of a complicated decision-making process that viewers employ in an aid appeal situation. A model of individual charity-giving behaviour proposed by Sargeant (1999) contends that both extrinsic factors, such as demographics, and intrinsic determinants, such as judgments and emotions, together determine reactions to aid advertisements. In other research, psychological factors that have been associated with donation and helping behaviour include a just world belief (Furnham, 1995), well-being, (Mussen, 1982) and satisfaction from helping (Serow, 1991). Snyder and Omoto (1992) who based their research on the motives of volunteers working with AIDs people concluded that even self-serving motives such as developing understanding, personal development and esteem enhancement are associated with a commitment towards helping others.

More ecologically valid research is called for; such research might include some of the above factors and examine stereotypic behaviour and rebound effects in an aid advertisement scenario to uncover such cognitive and behavioural responses as implementation intentions or actual donations. For example, donation behaviours could be measured when people visit websites, fill in questionnaires pertaining to individual differences and nominate monetary amounts for specific projects fronted by images of people that vary in terms of warmth and competence.

Limitations

Only further research into stereotyped groups, taking into account stereotype content differences, can extend understanding and any hope of changing the international poverty situation. This research did not address the content of perceivers' stereotypes of the African poor target group using dimensions of warmth and competence as independent variables. Further research needs to confirm whether, as predicted, stereotypes of the aid-related poor are, in fact, low in competence, and how competence judgments influence perceivers' responses. In addition, dimensions of competence may be more, or less, affected by stereotype suppression than are warmth dimensions and may thus affect rebound effects differently. People's stereotypes of the poor vary according to the situation and further research should address stereotype rebound in an ecologically valid context, asking people to actually respond to real aid advertisements.

The ambivalent content in social stereotypes means that perceivers have the capacity to respond to variations in the stimulus context and that particular aspects of the stereotype may be activated at different times. Stereotype suppression may also only occur when perceivers feel the need to respond to cues in the context, such as normative standards against stereotyping or the expectations of others, as in a university setting in a psychology laboratory. Wittenbrink, Judd and Park (2001) argue that such adaptive responses occur not only under controlled processing conditions but also in situations where information processing is not under the perceivers' voluntary control. In my experiments, suppression was induced by specifically asking participants to refrain from using their stereotypes, an instruction that may have cued further suppression attempts and awareness of stereotyping in participants. It might be interesting to record suppressors' responses at different times before, during and after the advertisements to see if their responses change or are adjusted as implicit processes become explicit.

Conclusion

Aid agencies are communicators and educators. Charities not only fund-raise; they provide development education, advocacy, charity and funding for development. The

images of poverty they present in the media "influence policies, practices and discourses of development and connect cultures globally" (Dogra, 2007, p. 161). Indeed, in addition to raising voluntary donations, aid agencies need to follow their fundamental mission: "forming world opinions and promoting other forms of active participation in the processes of social change" (Winter, 1995, para. 30). This development agenda demands that media images of the developing world communicate the right message to people effectively. The findings in this thesis provide tentative support for the idea that stereotypes and their content have a noticeable influence upon how people process and use information about others. Therefore there is good reason to carefully examine how cognitive processes of stereotype activation, application, suppression and rebound affect people's judgments and behaviours in response to aid advertisements.

Appendix A

Could Stereotype Rebound Affect Aid Advertising Campaigns?

(Kennedy & Hill, 2009)

Could Stereotype Rebound Affect Aid Advertising Campaigns?

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Abstract

The possibility that stereotype rebound may occur for viewers of aid agency appeals was investigated. Stereotype rebound refers to the ironic finding that active efforts to avoid thinking about people in a stereotypical manner can backfire and subsequently lead to increased stereotypical thinking and prejudiced behaviour. In two experiments participants were instructed to avoid stereotyped thinking about developing world poor and were later asked to respond to a situation involving the same group – in experiment 1 participants wrote a 'day in the life' story about the target group; in experiment 2 participants seated themselves in preparation for meeting a member of the outgroup. In neither experiment was the typical stereotype rebound effect observed. In experiment 1 suppressors' stories were found to be no more stereotypical in content than controls. In experiment 2 suppressors sat *closer* to the target than controls. The differences between these results and those of experiments utilizing other stereotyped groups are discussed in terms of differences in stereotype content and attitudes to socially sensitive outgroups.

KEYWORDS: stereotype rebound, implicit cognition, aid advertising

Could Stereotype Rebound Affect Aid Advertising Campaigns?

When people view aid agency advertisements and appeals they are often confronted by harrowing images and messages about world events and cultures that they know little about (Glasglow University Media Group, 2000). The goal of such advertisements is to galvanise an, often ignorant, public to action - to donate resources or otherwise 'live differently' in order to do something to help the people portrayed in the advertisements. The combination of limited of knowledge of the poverty situations facing many in developing nations, and the emotionally challenging nature of those poverty situations, gives rise to a complex cognitive situation in the mind of the viewer. Limited knowledge drives perceivers to rely on sketchy and often biased stereotypes of 'the developing world poor' (Opoku-Owusu, 2003), and the emotionally upsetting and often personally challenging content of the message may encourage people to suppress or ignore those messages. Recent research has shown that this combination of factors can trigger a cascade of unconscious cognitive processes that can ultimately lead to increased stereotyped thinking and prejudiced behaviours (Macrae et al., 1994). Clearly this is an undesirable state of affairs. Aid advertisements and appeals have a crucial role to play in the United Nations millennium goals that aim to reduce world poverty but, by failing to take into account fundamental cognitive processes of viewers, they risk outcomes that are neither intended nor expected. The aim of this paper is to provide a better understanding of some of the ways in which people respond cognitively to the communication efforts of aid agencies and to ensure that those efforts are effective.

The Construction of Stereotypes in Aid Advertising

Aid advertisements often use images that show poor people as helpless, passive, and destitute, in order to elicit empathy (Sargeant, 1999) and guilt (Coulter, 1989) in viewers. As a result, many people hold negative views of the developing world (Glasglow University Media Group) . Biased presentations of the poor are exacerbated by the implication that the people pictured are often desperately awaiting handouts from aid agencies and therefore are unable to help themselves (Opoku-Owusu). Thus, these images give rise to distorted perceptions that not only devalue the people they represent but also lead perceivers, who lack adequate explanations and context, to involuntarily generate negative stereotypes of those involved.

In this paper we examine one potentially serious consequence of such stereotyping for those who wish to encourage the general public of developed nations to donate resources to the fight against poverty in the developing world – the implicit social cognitive phenomenon known as *stereotype rebound*. Stereotype rebound refers to the fact that attempts to resist thinking about targets in a stereotypical fashion can actually increase the chances of later behaving towards those targets in a stereotyped and even prejudiced manner. We suggest that, because images of people in aid advertisements often provoke emotional reactions (Burt and Strongman, 2005) and are frequently portrayed in a negative manner, viewers will attempt to suppress unwanted thoughts and stereotypes that arise. If this suppression leads to stereotype rebound, aid advertising might inadvertently *decrease* the likelihood that viewers will donate time or resources. We report results from our research, that examines stereotype suppression and rebound in viewers of images of

poverty, and finish by considering the theoretical and real-world implications of our findings.

Implicit Cognition and Charitable Giving

Although there has been some research into psychological factors affecting charitable giving (Piliavin and Charng, 1990) and attitudes towards charitable giving (e.g., Webb et al., 2000) very little research has examined the cognitive processes that accompany people's exposure to advertisements for international aid. Implicit cognitive processes in person perception in particular, may have significant, unexpected, and often unintended outcomes for perceivers. Much of psychological processing in person perception occurs outside perceiver awareness and without intention. Bargh (1999) argues that most situations in everyday life are not controlled by conscious intentions and deliberate choices but by mental processes that are cued by features of the environment. In this he is supported by Allport (1954/1979) who contended that the basic process of categorisation lies at the heart of phenomena such as social stereotyping and prejudice. Existing mental categories and stereotypes in the perceiver's mind are influential in implicitly biasing perception and judgements of others (Sedikides, 1990). Research has identified a host of mental processes that might account for such bias, including recency, frequency, awareness, and emotional evaluation (Higgins, 1996, Schwartz and Clore, 1996). An important consequence of automatic person perception is that perceivers are often unaware of these underlying biases that inform their judgements.

Devine's (1989) seminal paper provided a theoretical analysis of how even those who are committed to egalitarian ideals are still vulnerable to the unintentional

activation of stereotypical thoughts. Devine argued that due to legacies of socialization experiences most individuals have knowledge of common stereotypes and that these are easily activated in viewers without intent or awareness (see also Fiske, 1998, Macrae and Bodenhausen, 2000). One important finding of Devine's study was that, even when people adopt caring and egalitarian beliefs and values, this commitment might not eliminate automatic deep-seated biases against stereotyped groups. Fiske (2004) suggests that as many as 80% of the population of Western democracies may "harbour benign intentions about inter-group relations but display subtle forms of bias" (p. 127). Because biases are subtle they are not easily noticed by viewers and may even come as a surprise to many (Dovidio and Gaertner, 1986, Dovidio et al., 2004). These studies suggest that individuals need to be able to exert control over their thinking and responses to out-groups; resolving to suppress unwanted thoughts is an obvious place to start.

We hypothesize that, because images of people in aid advertisements are often emotionally upsetting and stereotypical in content, viewers will attempt to suppress unwanted thoughts or stereotypes. While suppression might seem to be a reasonable response to control unwanted thoughts, there is a large body of research documenting the ironic effects of this activity. In particular, research has shown that in the social domain, 'rebounding thoughts' can lead to increased levels of stereotypical thinking and prejudiced behaviours (Macrae et al., 1994). Thus, suppressing unwanted thoughts and stereotypes is often not only ineffective, it is also counterproductive.

Thought Suppression and the Rebound Effect

Stereotype rebound research grew from a largely clinically-oriented research tradition that focused more generally on the consequences of thought suppression (Wegner et al., 1987, Wegner and Wenzlaff, 1996, Wenzlaff and Wegner, 2000). Wegner et al. (1987) first demonstrated thought rebound in an experiment in which one group of participants were told to 'try not to think about a white bear'. This suppression group reported a greater incidence of unwanted thoughts in a subsequent expression condition than did participants who initially expressed their 'white bear' thoughts before engaging in suppression. Other research has shown that rebound not only occurs for neutral thoughts (e.g., Clark et al., 1991, Lavy and Van den Hout, 1990) but also positive and negative personally relevant thoughts (e.g., Kelly and Kahn, 1994, Roemer and Borkovec, 1994, Salkovskis and Campbell, 1994). Importantly, not only do the thoughts themselves intrude but it has been claimed that behaviour can be influenced by the greater incidence of the unwanted and unintended thinking associated with suppression (Macrae et al., 1994, Wegner and Gold, 1995, Wenzlaff et al., 1988).

Rebound has been explained in several ways. Wegner (1994, 1997, Wegner and Wenzlaff) first suggested that rebound occurs because of the failure of one of two complementary cognitive processes that underpin suppression. The two processes consist of an effortful and conscious search for distracters, used to focus on something other than the unwanted thought (the *operating process*), and an automatic *ironic monitoring process* that unconsciously and repeatedly searches for sensations and thoughts that are inconsistent with the achievement of successful control. According to Wegner the controlled operating process fails to work

effectively under high cognitive loads (such as distraction, dual tasks, time pressures) while the automatic monitoring process, which requires few processing resources, continues to function normally. In these situations, unwanted thoughts are continuously and sensitively detected by the monitoring process but are not replaced by the operating process (Wenzlaff and Bates, 2000). Therefore, when controlled intentional suppression ends (or is interrupted) unwanted thoughts become *hyper-accessible* and are much more likely to be activated in response to environmental cues. Under such circumstances rebound often occurs.

Consistent with this idea, studies have demonstrated that when participants are encumbered with cognitive demands during suppression, such as time pressures and concurrent memory tasks, rebound increases (Macrae et al., 1997, Wegner and Erber, 1992, Wenzlaff and Bates). However, many studies have shown that high cognitive load is not always necessary for rebound to occur. So others have suggested alternative explanations.

Macrae et al. (1994) extended Wegner and Erber's (1992) model of mental control and proposed that stereotype rebound can also be explained by the cognitive processes of priming and construct accessibility. Specifically they claim that the very 'search and focus' efforts of the automatic monitoring process repeatedly *primes* unwanted thoughts rendering them ever more accessible (i.e., roughly speaking, likely to spring to mind). Thus, even when the controlled operating process is fully functional (under conditions of low cognitive load), the ongoing operation of the monitoring process will make it more and more likely that unwanted thoughts will affect the ongoing judgements and evaluations of the suppressor. In addition they argue, after Higgins, Bargh, and Lombardi (1985), that frequent priming of an

unwanted thought will result in it remaining active for extended periods of time after the monitoring process is 'switched off'. Consequently the unwanted thought can continue to influence ongoing cognition and behaviour.

Thinking Stereotypically

In the social domain researchers have investigated whether the suppression of unwanted stereotypes might have similar paradoxical effects to that found in the thought suppression literature (Macrae et al., 1998, Macrae et al., 1994, Monteith et al., 1998b). Stereotypical thinking is a pervasive and fundamental cognitive process that enables people to simplify and quickly gain an understanding of others in a complex social world. As a consequence of obligatory categorisation processes, stereotypes are often automatically evoked by the presence of a social group member. However, as noted above, people are typically unaware of the influence of stored stereotypical information and its origins (Nisbett and Wilson, 1977) and thus, even those with the best intentions cannot override the biasing effects of these unconscious processes (Banaji and Bhaskar, 2000). In the case of the aid advertising, implicit stereotypes are likely to be strengthened by continued exposure to *biased* images of the poor in the media; yet, because they remain outside perceiver awareness, may lead to unintended discriminatory judgements and behaviours (Chen and Bargh, 1997, Fazio et al., 1995, Dovidio and Gaertner, Greenwald and Banaji, 1995).

Suppressing Stereotypic Thinking

At times viewers of images of the poor may want to respond positively to requests for help despite the fact that they may simultaneously, and automatically, experience biased stereotypical thoughts. They may do this because they are concerned with appearing overtly prejudiced (Dovidio et al., 2001, Fazio and Olson, 2003, Vanman et al., 1997) or because they have well-internalised standards of fairness and egalitarian norms (Devine, Monteith, 1993). In some cases, suppression may occur because viewers feel that the stereotypical images used to communicate aid agency messages are patronising or incorrect (Radley, 1994). Whatever the reason, people may respond to the discrepancy between automatically activated stereotypes and their desired response by initiating some form of cognitive control over their thinking (Devine and Monteith, 1999). When this occurs the key requirements necessary for generating stereotype rebound have been met.

Rebound Effects When Thinking Stereotypically

Macrae et al. (1994) carried out three experiments to examine rebound effects following people's efforts to control thinking about a strongly stereotyped group – British skinheads. In each of their experiments, one group of participants (the suppression group) was asked to refrain from thinking stereotypically about the target group while writing an essay describing a 'day in the life' about a member of that outgroup. A control group did the same task but was not given suppression instructions. Rebound was then assessed by measuring the difference in the stereotypicality of behaviour in a second task among the two groups. All experiments demonstrated that suppression led to increased stereotypic thinking and

behaviour (i.e., stereotype rebound). In Experiment 1 a second essay was used to measure stereotypicality and it was found that the suppression group produced more stereotypic essays than the control group. In Experiment 2 'suppressors' maintained a greater distance between themselves and a skinhead in a sham meeting, than the control group participants did. In their third experiment, Macrae and his colleagues used a lexical decision task to show that, although information associated with the skinhead stereotype was activated for *both* suppressors and control participants, stereotype activation was much stronger for the suppression group.

Rebound and the 'Poor African' Stereotype

As part of an ongoing research programme examining the cognitive processing of stereotypes of 'the African poor', we conducted two experiments using Macrae et al.'s (1994) methods. Our intent was to see if rebound effects occur when people suppress stereotypes of poor African people, using images such as those they might see in an aid advertisement.

Experiment One

Participants

Twenty nine undergraduate psychology students from Massey University (five men and twenty-four women, 48% of whom were aged under 25 years) were recruited from psychology lectures and tutorials. Each participant was reimbursed for time and travel expenses at $10.

Procedure and stimulus materials

A 2 (task instruction: control or stereotype suppression) x 2 (essay: first or second) mixed design was used with repeated measures on the second factor. The methodology of this experiment was adopted from Macrae et al.'s (1994) first experiment into stereotype suppression and rebound. All participants were told that the study comprised an investigation of people's ability to construct life event details from visual information and were randomly assigned to experimental or control groups. As in Macrae et al.'s study, those in the experimental group were informed, "Previous psychological research has established that our impressions and evaluations of others are consistently biased by stereotypic preconceptions. Therefore, in this task, you should actively avoid thinking about the target person in such a manner". Each participant viewed a picture of the same poor African person and was instructed to take five minutes in which to write a story about a 'typical day in the life of this person'. After the participants had competed writing the first essay the experimenter returned and participants then viewed a second A4-sized picture of a second poor African person and again wrote a 5-minute essay describing a 'typical day in the life of this person'. There were no instructions given to the experimental group prior to writing the second essay. Therefore, in this second essay, experimental participants who experienced a relaxation of the instruction to suppress were expected to write essays containing higher levels of stereotypical phrasing than those in the control group.

Essays were rated using a 9-point rating scale: 1 (not at all stereotypic) and 9 (very stereotypic) by two independent raters who were blind to experimental conditions and the purpose of the study. The level of agreement for both essays in

Experiment one was r (27) = .77, p<.01 (2-tailed). Scores were collapsed for raters and a single measure computed for stereotypical phrasing for each essay.

Results

A mixed model 2 (task instruction: control or stereotype suppression) x 2 (essay: first or second) analysis of variance (ANOVA) with repeated measures on the second factor was carried out to examine the effects of suppression on the level of stereotypicality of essay content. The analysis revealed a main effect of essay, F(1, 27) = 4.72, p = .039, η_p^2 =.15, with the level of stereotypicality being higher for the first essay (M = 6.57, SD = 2.13) than the second (M = 5.59, SD = 2.55).

Unsurprisingly, a marginally significant main effect of task instruction was observed, F(1, 27) = 3.99, p = .056, η_p^2 =.13, with the suppression group showing overall lower stereotypicality in their essays (M = 5.34, SD = 2.36) compared to the control group (M = 6.77, SD = 2.22). There was no interaction of essay and task instruction, F (1, 27) < 1. Simple effects analyses confirmed that the suppression group wrote less stereotypical first essays as instructed (Ms = 5.61 vs. 7.47, SDs = 2.28 vs. 1.56), F(1, 27) = 6.64, p = .016, η_p^2 =.20, but, contrary to predictions the suppression group did not subsequently write more stereotypical second essays (Ms = 5.07 vs. 6.07, SDs = 2.50 vs. 2.60), F(1, 27) = 1.01, p = .30, η_p^2 =. 04.

Discussion

The findings suggest that even though participants in the *suppress* condition did as they were instructed, and used less stereotypical phrases in their first essay

than did the control group, rebound did not occur. Although Macrae et al. (1994) showed rebound other researchers have failed to show rebound especially for socially sensitive outgroups such as gay males (Monteith et al.) and African-Americans (Hodson and Dovidio, 2001). There are several possible reasons why rebound is not always found. One reason might be that the participants tended not think about the target group in a stereotypical fashion at all so there was no activation of a stereotype and no possibility for rebound. However, this explanation cannot explain the fact that the control group wrote more stereotypical first essays than the suppression group. This indicates that the natural tendency is to stereotype the African poor to some extent.

Another possibility is that the suppression group continued to suppress their stereotypical thinking throughout the experiment. The difference between the current experiment and Experiment 1 of Macrae et al. can be explained but the fact that people are more inclined to overtly stereotype outgroups such as skinheads than socially sensitive groups. That is, participants, especially psychology students, may consider it to be more acceptable to behave in an overtly prejudiced manner towards skinheads than it is toward people struggling with poverty in developing nations. It may be the case that a lack of *explicit* stereotypical thinking may account for a lack of rebound in our Experiment 1. Participants are likely to monitor the production of stereotypical thoughts in situations where they are aware its impact on the task at hand (situations like essay writing in Experiment 1). Thus one could argue that although there were no explicit instructions to continue suppressing stereotyped behaviour in the second essay social convention may have been responsible for continued editing of output. Stereotype suppression is a form of control instigated by the perceiver to meet personal needs (e.g., to individualise a target person to meet

personal standards about how one should judge others), or the desire the meet prevailing social norms. The latter is particularly pertinent when working with undergraduate psychology students who are very aware of stereotypes and their implications for judgement and behaviour. For a *suppress* group, instructions to avoid stereotyping may prompt a desire to carefully monitor one's expression of stereotypes of the poor when writing *both* essays and not just the first one where explicit suppression instructions are given. In keeping with this possibility Wyer, Sherman & Stroessner (2000) found participants were much less likely to make judgements about race-specified targets than they were about non-race-specified targets. In another study (Wyer et al., 1998) demonstrated that intrinsic suppression is likely to occur in social contexts where there are strong social norms against stereotyping. It is possible that, unlike the case of Macrae et al.'s (1994) skinheads, strong prevailing social norms may have led our participants to carefully suppress and monitor their stereotypic thinking so that rebound effects were not observed in the second essay in Experiment 1.

Monteith et al.'s (1998) research on stereotypical thinking about the gay males by low- and high-prejudiced individuals provides support for such a contention. In addition to examining rebound using the essay procedure used by Macrae et al., they also measured *implicit* activation of stereotype content using a memory recall task. They found no evidence of rebound for either low- or high-prejudiced individuals using the explicit essay information, but, interestingly discovered that high-prejudiced participants demonstrated hyper-accessibility of stereotypical information when this information was measured implicitly. Results from these experiments suggest that, in the case of strongly socially sensitive targets, a rebound effect may only be evidenced in tasks that can tap implicit cognition (e.g.,

lexical decision tasks, Monteith et al.'s memory recall task) and it may not be reasonable to expect evidence of stereotype activation in an overt measure such as essay-writing.

Thus, it is likely that some at least some people 'spontaneously' suppress stereotypical thinking in the absence of instructions to do so. If such spontaneous suppression does occur then rebound cannot necessarily be detected using the current experimental design. With this in mind our second experiment examined whether rebound might occur given a more subtle measure of stereotype-driven behaviour.

Experiment Two

Participants

Twenty four undergraduate psychology students from Massey University (twenty-one women and three men, 58% of whom were aged under 25 years) were recruited from psychology lectures and tutorials and reimbursed $10 for taking part in the experiment.

Procedure and stimulus materials

The experiment was a single factor (task instruction: stereotype suppression or control) between-subjects design, based upon the methodology used in Macrae et al.'s experiment two that examined behavioural consequences of stereotype suppression. As in experiment one, participants were all told that the experiment was an investigation of people's ability to construct life event details from visual information. Participants were randomly assigned to experimental or control groups

and asked to take five minutes to write a short essay describing what the subject of the photograph might do in a typical day. The experimental group was again asked to refrain from using stereotypical preconceptions in their writing. Each participant viewed a picture of the same African person before writing their essay. When participants had written their essays, the experimenter explained that an African student who came from a village similar to that depicted in the picture, was studying at the university and had agreed to meet with them. Participants were then taken into an adjacent room where there was a row of eight empty seats. A pile of belongings that an African student may have owned (e.g., texts, paper refills, a bright colourful bag and jacket) was placed on the eighth seat. The experimenter expressed surprise that the African student was not currently in the room and suggested that participants take a seat until the African student returned. The seat chosen by the participant was a measure of social distancing that was taken as an indication of the rebound effect. It was expected that, following a period of suppression, the *suppress* group would experience higher levels of stereotypical thinking and distance themselves further from the supposed seat of the African student. The experimenter noted the seat chosen, debriefed the participant and the experiment ended.

Essays were again rated using a 9-point rating scale by two independent raters who estimated the stereotypical content of the essays. The level of agreement for essays in Experiment Two was r (22) = .79, p < .01 (2-tailed). Scores were collapsed for raters and a single measure computed for stereotypical phrasing in the essay.

Results

The crucial dependent variable was seating position. The belongings of the African student were on the first seat of eight. The other seats, on which the participants could sit, were numbered from 1 (closest) to 7 (most distant).

Manipulation check. A single factor (task instruction: control or stereotype suppression) between subjects ANOVA was conducted on the levels of stereotypical phrasing in the essay. Analysis showed a main effect of task instruction in this essay, $F(1, 22) = 7.19$, $p = .014$, $\eta_p^2 = .25$. The *suppress* group wrote fewer stereotypical phrases in their essay ($M = 5.21$, $SD = 2.39$) than did the control group ($M = 7.33$, $SD = 1.35$).

Seating position effects. As the *suppress* group appeared to successfully suppress their stereotypical thoughts when writing essays we expected that, as in Macrae et al.'s experiment, a rebound effect might follow, choosing to seat themselves farther away from the African student's seat than did the control group. A single-factor between-subjects ANOVA (task instruction: control or stereotype suppression) was conducted on seating position. Results showed a significant main effect for task instruction, $F(1, 22) = 8.03$, $p = .10$, $\eta_p^2 = .27$. However, the *suppress* group sat *closer to* rather than farther away from the supposed person ($M = 4.50$, $SD = .80$) than the control group ($M = 5.25$, $SD = .45$). Therefore, although a rebound effect (i.e., significantly different behaviour compared to controls) was evidenced in this study, it was in the opposite direction to that found in Macrae et al. (1994).

Discussion

The results of Experiment 2 suggest that it is possible that suppression leads people to act in a *less* 'prejudiced' manner in a subsequent task. A simple explanation of this finding is that participants in the suppression condition maintained their stereotype avoidant thinking for the duration of the experiment. Although possible, we think that this is unlikely as this did not occur in our first experiment or in any other research that we know of. Instead we think that this surprising result indicates that rebound effects following suppression of stereotypes of the poor may be quite different from those of other stereotyped groups (i.e., skinheads, African Americans, gay men). Although many studies have failed to find rebound effects for socially sensitive groups (Hodson and Dovidio, Penn and Corrigan, 2002), none, to our knowledge, have reported a rebound effect where participants have responded in the opposite manner (i.e., sitting closer rather than farther away). This finding presents something of a puzzle and, we believe, requires us to pay attention to the content of stereotypes.

In Macrae et al. (1994) and subsequent studies of rebound it appears that the stereotypes of outgroups are understood to be uniformly negative in their content (e.g., skinheads are believed to be angry, unintelligent, and violent, with few redeeming features). This leads to the assumption that behaviour directed at the outgroup motivated by a stereotype will be avoidant. This thinking presumably underpinned Macrae et al.'s (1994) conclusion that increased social distancing in their Experiment 2, reflected highly primed stereotypical thinking.

However, as Dovidio and Gaertner (1986) and Fiske and colleagues (Fiske et al., 2002, Fiske et al., 2007) point out many common stereotypes are quite

ambivalent in nature, combining positive and negative elements. Glick and Fiske (2001) suggest that stereotype content varies on two primary dimensions, *warmth* (trustworthiness, liking) and *competence* (efficiency, intellectual status). Uniformly negative stereotypes score low on both dimensions (e.g., for USA raters these include the homeless, welfare recipients, drug addicts) but the majority of outgroups studied have mixed or ambivalent stereotype content (either high in warmth and low in competence or the reverse). Stereotypes of poor African people, derived from images and information in aid appeals, likely contain reasonably high levels of warmth (e.g., helpfulness and understanding) and low levels of competence (e.g., ambition, power, and capability) – a combination that Fiske et al. describe as paternalistic. By contrast, stereotypes of Macrae et al.'s skinheads probably possess a low competence – low warmth content profile. Importantly, Fiske et al. (2007) argue that different combinations of positive and negative content drive different kinds of emotional and behavioural responses, not all of them avoidant in nature. In the case of paternalistic stereotypes the high warmth component encourages active facilitatory behaviours (helping) while the low competence aspect encourages passive harm (neglect). Discrimination against paternalistically stereotyped outgroups (e.g., older people, disabled people) typically has this profile where members are liked but also often socially isolated and institutionalised. By contrast low – low stereotypes engender feelings such as contempt that lead to actively harming and/or avoiding of outgroup members.

These ideas can be used to make sense of the differences between our Experiment 2 and Macrae et al.'s (1994) seating study. Both sets of results are consistent with stereotype rebound in that suppression led to an exaggerated stereotype-consistent behavioural response. That is, the high-low stereotype content

for African poor encourages approach behaviours whereas the low-low content for skinheads encourages avoidance behaviours. In rebound these tendencies are exaggerated (relative to controls). Thus, despite initial appearances, the results of Experiment 2 can be understood as evidence for the occurrence of stereotype rebound for the outgroup of African poor.

General Discussion

Clearly we did not replicate the standard rebound findings reported by Macrae et al. (1994). Not only did we not demonstrate stereotype rebound with the target group of 'African poor' in Experiment 1, we obtained some suggestive evidence in Experiment 2 that a positive variety of rebound occurred. While it is possible that the developing world poor can be stereotyped without risk of 'negative rebound', it is also possible that the nature of the experimental setup and/or the characteristics of the participants do not tell us the entire story about the consequences of suppression in the real world setting of aid advertising.

It is unclear what the implications of our experiment 1 findings are for responses to aid appeals by viewers. If viewers regularly control their stereotypical thinking when making decisions about charitable giving (as may have been the case in the day-in-the-life method used in Experiment 1) then one might conclude that people's decisions to give will not be influenced by the rebound. However, if donation involves implicit judgements (as in Experiment 2) then the suppression of stereotypic thinking may alter how people respond to appeals. Specifically, it seems possible that stereotype suppression may lead to increased charitable giving.

However, conclusions such as these need to be qualified because we know that rebound is influenced by other factors, specifically factors such as personal attitudes (Monteith et al., 1998a). Rebound is more likely to occur, especially when measured implicitly, for individuals who score highly on measures of prejudice. Because the participants in our experiments were psychology students it is possible that they did not provide a representative of the range of prejudice attitudes such as might be found in the general public. We do not know what the net effect of rebound is likely to be for the actual viewers targeted by aid appeals – a group whose variety of attitudes and beliefs may moderate the effects of suppression in a complex fashion.

There is an added complication of understanding how people react to ambivalent stereotypes. Fiske et al. (2007) note that personality and situational variables can moderate the relative influence of the two stereotype dimensions of warmth and competence. While warmth judgements are usually the primary drivers of behaviours towards outgroup members, individual differences in personality as well as the framing of information can increase to the influence of competence judgements. For high warmth-low competence stereotypes of outgroups like the African poor, this could reverse stereotype-driven behaviour from the favourable (increased giving) to the unfavourable (increased neglect). If stereotype suppression were to occur in such a situation it is possible that aid appeals might backfire resulting in a decrease in charitable giving. Future research should investigate these possibilities. Specifically researchers will need to examine, 1) whether, and if so when, stereotypes are activated for the developing world poor - given recent mixed research findings on stereotype activation (Macrae et al., 1997, Kawakami et al., 2000), 2) individual differences in intrinsic suppression of stereotypic thinking with

samples representative of the public targeted by aid agencies, 3) how people respond in realistic aid advertising situations, and 4) whether only overt prejudice is problematic for influencing the public to support the developing world poor, or whether more insidious implicit stereotyping can also adversely impact on aid advertising. In the meantime, we believe there exists enough evidence to suggest that stereotype rebound might have implications for the ways in which viewers respond to the appeals of aid agencies and that efforts to offset it should be made.

Conclusions

Rebound effects are potentially powerful largely because they are the result of implicit cognitive processes that occur without the actors' awareness, intention and effort. Rather than processing information in a conscious and systematic manner, individuals may have less control over their perceptions and impressions of others than they might imagine. Viewers who automatically activate stereotypes and subsequently suppress them, may be susceptible to increased stereotypic thinking which impacts upon their subsequent judgements of and behaviour towards others. It seems likely that committed supporters of aid programmes might avoid the effects of rebound, either by not activating stereotypes at the start or by successfully controlling stereotype application (Fazio et al.). However, it seems likely that most viewers do not have an in-depth understanding about poverty, nor do they hold strongly supportive views and goals towards development. These people, who greatly outnumber those committed to supporting developing countries, are the viewers who will find their behaviour is influenced by implicit cognitive processes.

For a large proportion of the population, therefore, stereotype rebound following aid advertisements is a real possibility.

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Appendix B

Sample Participant Consent Form

People information in memory

PARTICIPANT CONSENT FORM

This consent form will be held for a period of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to participate in this study under the conditions set out in the Information Sheet.

Date……………………………..

Signature………………………………………………..

Full name (printed)……………………………………………………………………

Appendix C

Sample Participant Information Sheet

People information in memory

Experiment 4

You are being invited to volunteer for a research project that will investigate how people think about others. The primary focus of this study is to increase our understanding of how these thinking processes impact upon subsequent judgments of and behaviour towards other people.

During the experiment we will ask you to view pictures of different people and to write a paragraph of information that describes a typical day in the life of the person in the picture. We will also ask you to complete a decision-making task on the computer. There will be 25-30 people in the experimental group and a similar number in the control group. The experiment should take approximately 20 minutes. You will be given $10 for your time/petrol expenses. You are welcome to ask the researcher questions at any time before and after the study.

The information collected will be used for my doctoral research thesis (Sharyn Kennedy) and may be submitted for publication in an academic journal. The personal information we will ask for besides informed consent will include your gender, an indication of age and of how often you see international aid advertisements. Your consent form will be kept separate from your experiment data so that your responses to the experiment are completely anonymous. Data from all participants will be merged together for analysis and all information will be securely stored at the Psychology Department and disposed of by the researchers after a period of 5 years.

You are under no obligation to participate in this project. You are free to choose whether or not you will complete the study and you may decline to participate at any time before, during or after the study is completed. You may retrieve your data if you choose not to have it included within a month of completing the study. You may also withdraw from the study within one month of completing it without loss of any benefits of participation. A summary of the project findings will be made available to participants when the project is completed. Please contact my supervisors or myself if at any time you have any questions regarding this research. Thank you for your participation.

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This research has been reviewed, judged to be low risk, and approved by the researcher and supervisor under delegated authority from the Massey University Ethics Committee. If you have any concerns about the conduct of this research, please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Equity and Ethics), telephone (06) 350 5246, email S.V.Rumball@massey.ac.nz

Appendix D

Stimulus Picture: Experiments 1, 2 & 4

Permission to use this image was purchased from PhotoVault:

http://www.photovault.com
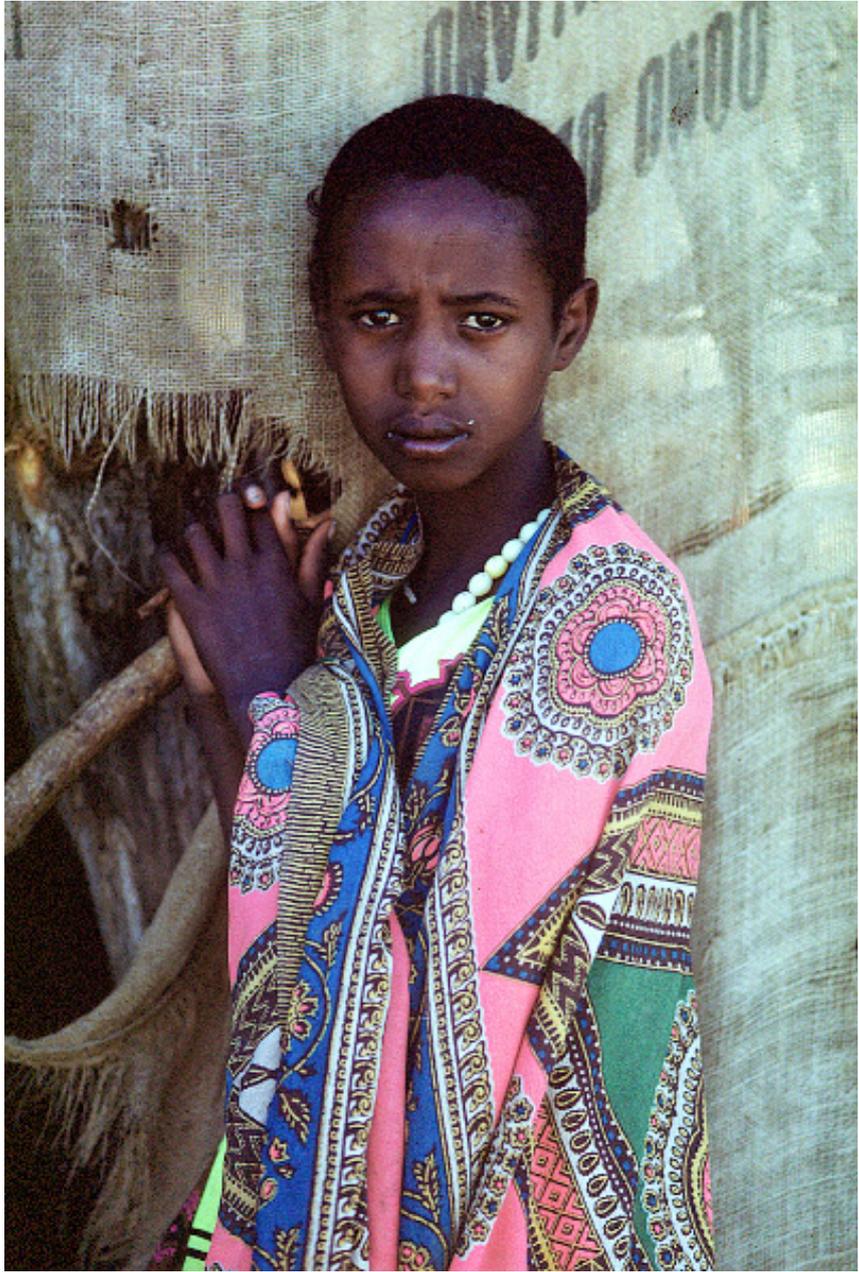
Appendix E

Ratings of images of the African poor

Image ratings

21 independent raters rated images of African poor people used in the experiments. They were asked to rate each image between 1 and 10, in terms of how representative images were of those portrayed in aid advertisements (1 = 'not representative at all' to 10 = 'very representative').

Average ratings of the representativeness of images of aid advertisements (n=21)

Stimulus Picture: Experiments 1, 2 & 4	6.1 (1.8) *
Stimulus Picture: Experiment 1	5.8 (1.6)
Stimulus Pictures: African poor man #1	4.8 (1.5)
Stimulus Pictures: African poor man #2	6.7 (2.0)

*Standard deviations are in brackets

Appendix F

Stimulus Picture: Experiment 1

Permission to use this image was purchased from PhotoVault:

http://www.photovault.com

Appendix G

Descriptors for Warmth and Competence Ratings in Essays

Descriptors for Warmth (High/Low) and Competence (High/Low) Ratings in Essays

The description of the target person includes:

High Warmth

1. The person is described as helping other people
2. The person is described as playing with or entertaining other people
3. The person feels sad about the plight of others or is concerned for others
4. The person is described as being happy
5. The person is described as liking or loving others

Low Warmth

6. The person is described as not helping (exploiting, using) other people
7. The person is described as uninterested in other people or cold.
8. The person is unemotional or unconcerned about the plight of others
9. The person is described as being grim, hard, cynical
10. The person is described as disliking or hating others

High Competence

11. The person is described as working, having a good job
12. The person is described as having responsibilities for others (employees, family) or a business
13. The person is described as having important skills (farming, writing, leadership, business skills, crafts)
14. The person is described as being having some form of education (school, training, university)
15. The person is described as being intelligent, insightful, clever, astute

Low Competence

16. The person is described as jobless or struggling to make a living
17. The person is described as being dependent on others
18. The person is described as having few skills
19. The person is described as being uneducated
20. The person is described as being unintelligent, naïve, clueless, superstitious

Appendix H

Stimulus Pictures: African poor men

Image #1

Image #2

Appendix I

Stimulus Pictures: African wealthy men

Image #1

Image #2

Appendix J

Positive and Negative Trait Words for African Poor Stereotype

Positive and Negative Trait Words for African Poor Stereotype

Positive trait words	*Negative trait words*
Happy	Afraid
Patient	Hungry
Cheerful	Dirty
Cooperative	Needy
Creative	Scavenging
Protective	Malnourished
Helpful	Unwashed
Caring	Unhealthy
Deserving	Simple
Responsible	Uneducated
Grateful	Illiterate
Energetic	Ungrateful
Hopeful	Unhappy
Traditional	Poor
Sharing	Pitiful
Concerned	Homeless
	Tired
	Frightened
	Helpless
	Pathetic
	Sick

Appendix K

ANOVA for Experiment 1

ANOVA for Suppress and Control Groups in Experiment 1

Main effect of Instruction

	Sum of squares	df	Mean Square	*F*	Sig.
Between Groups	29.507	1	29.507	3.993	.056
Within Groups	13.567	27	13.567	4.716	.039

Target x Instruction Interaction

	Sum of squares	df	Mean Square	*F*	Sig.
Between Groups	29.507	1	29.507	3.993	.056
Within Groups	2.705	27	2.705	.940	.341

Appendix L

Unequal Variance Test for Experiment 2

Experiment 2

Unequal Variance t-test (Independent Samples) for Suppress and Control Groups

	t	df	Sig.	*Mean Difference*	Std. Error Difference
Essay	2.682	17.410	.016	2.1250	.7925
Seat	2.833	17.409	.011	.750	.265

Appendix M

ANOVAs for Experiment 3

ANOVA for Suppress and Control Groups for Essays in Experiment 3

Main effect of Target

	Sum of squares	df	Mean Square	F	Sig.
Between Groups	.645	1	.645	.362	.551
Within Groups	34.224	36	34.224	25.334	.000

Target x Instruction Interaction

	Sum of squares	df	Mean Square	F	Sig.
Between Groups	.645	1	.645	.362	.551
Within Groups	8.895	36	8.895	6.584	.015

ANOVA for Suppress and Control Groups for Seats in Experiment 3

Main effect of Target

	Sum of squares	df	Mean Square	F	Sig.
Between Groups	.364	1	.364	.217	.645
Within Groups	3.762	32	3.762	5.879	.021

Target x Instruction Interaction

	Sum of squares	df	Mean Square	F	Sig.
Between Groups	.364	1	.364	.217	.645
Within Groups	4.644	32	4.644	7.258	.011

ANOVA for Suppress and Control Groups for Warmth in Second Essays of African Poor and African Wealthy

Main effect of Target

	Sum of squares	df	Mean Square	*F*	Sig.
Between Groups	.118	1	.118	.151	.700
Within Groups	2.961	36	2.961	4.355	.044

ANOVA for Suppress and Control Groups for Competence in Second Essays of African Poor and African Wealthy

Main effect of Target

	Sum of squares	df	Mean Square	*F*	Sig.
Between Groups	.118	1	.118	.044	.835
Within Groups	70.118	36	70.118	34.209	.000

Appendix N

ANOVA for Experiment 4

ANOVA for Suppress and Control Groups in Experiment 4

Valence x Instruction Interaction

	Sum of squares	df	Mean Square	*F*	Sig.
Between Groups	44.577	1	44.577	.001	.972
Within Groups	4959.921	68	4959.921	5.125	.027

Effect of Valence

	Sum of squares	df	Mean Square	*F*	Sig.
Between Groups	44.577	1	44.577	.001	.972
Within Groups	5.155	68	5.155	.005	.942

Effect of Stereotype

	Sum of squares	df	Mean Square	*F*	Sig.
Between Groups	44.577	1	44.577	.001	.972
Within Groups	269.120	68	269.120	.218	.642