

# Exploring the antecedents of perceived diversity

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## ABSTRACT

*We explore whether differences in perceptions of diversity might emanate from the characteristics of perceivers themselves rather than from the characteristics of those observed. Grounding our arguments in self- and social-identity theory, we hypothesize that individuals respond differently to the same diversity stimuli because they differ in their 'propensity to stereotype' and 'diversity experience.' Since individuals tend to gravitate towards similar others, we also hypothesize that perceived diversity can predict an individual's 'desire to group' with others. Over 200 individuals – staff and students – from a university were exposed to diverse stimuli in an online experiment in a bid to test the hypotheses. Structural Equation Modeling of the data generally supported the hypothesized relationships.*

**Keywords:** perceived diversity, propensity to stereotype, diversity experience, desire to group, homophily, social cognition

The pressure on firms to globalise, affirmative action, advances in communication technology, demographic shifts, and increasing labour mobility have all combined to make diversity in the Australian workplace an inescapable reality. In keeping with its importance, diversity as a topic is well researched. While there is considerable debate as to the dimensions of diversity and the purpose of diversity research (Ashkanasy, Härtel, & Daus 2002), there appears to be a general consensus amongst management scholars that diversity may be broadly defined as '...the presence of differences among members of a social unit' (Jackson, May & Whitney 1995: 217). But even this definition begs a question: How 'different' should a member of a social unit be to be considered different?

It is possible for two middle-aged White women of similar backgrounds to relate very dif-

ferently to a common Asian friend. One of them could regard her friend as being very similar to self, while the other could reach the opposite conclusion. What is it that makes the two women respond differently to the same stimuli? Do the attributes of observers contribute more to diversity perceptions than the attributes of those observed? Could diversity, much like beauty, lie in the eyes of the beholder?

Diversity may be seen as emanating from two sources: readily detectable attributes and underlying attributes (Jackson et al 1995). Readily detectable attributes (RDA) are attributes like age, gender, and ethnic origin that are easily observed in a person. Underlying attributes include characteristics such as personal priorities and values, cultural beliefs, personality characteristics, attitudes about schooling and education,

knowledge levels, and so forth that are not so easily observed. Diversity scholars also use the terms *surface-level* and *deep-level* diversity to describe RDA and underlying attributes (see Harrison, Price, Gavin & Florey 2002). In this paper, we confine our discussion to diversity perceptions that arise on exposure to others' RDA. As several scholars have pointed out, differences in RDA tend to elicit more negative reactions from observers than do differences in underlying attributes (Härtel & Fujimoto 2000; Milliken & Martins 1996; Pelled 1996).

According to self-categorization theory (Turner 1987), individuals tend to classify themselves and others into social categories on the basis of RDA as they strive to preserve their own social-identity. While it is true that RDA contribute to one's social-identity, it is also true that the degree to which one identifies with those perceived to be similar to self may vary across individuals. For instance, a female influenced by feminism would probably attach a lot of salience to gender while determining her own identity; the same may not hold true of a female not exposed to feminism. Drawing from self-identity and social categorization theories, Jackson, Stone and Alvarez (1992) observe that people consider the groups they identify with as in-groups and all other groups as out-groups. More importantly, people display different attitudes towards members of in-groups and out-groups.

A large body of evidence suggests that individuals tend to integrate more strongly with members of their in-group and are unfavorably disposed towards out-group members (see Riordan 2000: 135-37 for a summary). Thus a woman who uses gender as a category for self-definition would not only be attracted to groups comprising females (Tsui, Egan & O'Reilly 1992), but would probably also be averse to accepting males as potential in-group members. Indeed, perceptions can, and do, produce real outcomes. For example, individuals who perceive others to be dissimilar to self tend to provide discriminatory performance ratings (Härtel, Douthitt, Härtel & Douthitt 1999) and readily

make in- and out-group distinctions (Fujimoto, Härtel, Härtel & Baker 2000). There is thus empirical support for Lawrence's (1997) contention that diversity effects rely on perception.

Unfortunately, scholars have generally ignored diversity perceptions (Riordan 2000). But as Harrison and colleagues argue, 'if (actual) differences are to be meaningful, they must be perceived' (2002: 1032). Strictly speaking, basic theories of self- and social-categorization are theories of perceived diversity. They appear to have been wrongly appropriated as theories of actual diversity. Even the scholars who have focused on diversity perceptions (e.g., Harrison et al 2002) have done so primarily to explain away inconsistencies in the findings pertaining to the effects of actual diversity. In this regard, Härtel and Fujimoto (2000) are an exception in that their work recognises the central role of diversity perceptions independent of actual diversity. The authors introduce the notion of openness to perceived dissimilarity. They explain that perceived dissimilarity refers to a 'psychological boundary people place between themselves and others' (2000: 15). Openness to perceived dissimilarity is a tendency that prevents people from erecting such boundaries. Accordingly, people who are high in dissimilarity openness are said to perceive diversity less often. Härtel and Fujimoto (2000) in effect imply that different people respond to diversity stimuli differently. It is this insight that informs our empirical paper.

Our study makes two contributions to the diversity literature. Firstly, the study makes a case for focusing on perceived diversity in its own right. Secondly, the study introduces the notion that within person differences contribute to diversity perceptions. Given the evidence that diversity perceptions can lead to negative outcomes, we believe that it would be worthwhile to explore what drives diversity perceptions. Knowledge about the drivers of perceived diversity could help organizations moderate employee perceptions and better cope with the challenges of managing a diverse workforce. In the following section, we hypothesize a theoretical model that attempts to

identify the antecedents of perceived diversity. We later test the model and discuss the results and implications of our study for theory and practice.

### HYPOTHESIZED MODEL

The structural model that we propose to test is shown in Figure 1 and can be summarized thus: (i) When individuals come across another person, they usually notice the person's RDA and form impressions about self-similarity in relation to the target person; that is, exposure to others' RDA leads to diversity perceptions. (ii) These perceptions of diversity are influenced by the observers' *propensity to stereotype* and *diversity experience*. (iii) Diversity perceptions, in turn, impact upon the observers' *desire to group* with the target person. We begin by discussing *perceived diversity*, the construct central to our model.

### Perceived diversity

Since gender and race-ethnicity are easily detected demographic characteristics, they often form the basis on which individuals spontaneously categorize each other (Lau & Murnighan 1998). These initial categorizations are accompanied by perceptions of similarity or dissimilarity (Harrison, Price & Bell 1998). When encountering a target person who may be categorized in multiple ways, people do not always see the same person (Fazio & Dunton 1997). As Macrae and colleagues (1997) point out, whether, when looking

at an individual in a white coat, an observer sees a neurosurgeon, a woman, or a potential dream date may depend upon the hopes, fears, desires, and encoding operations that an observer brings to bear on the perception process.

One can thus infer that perceptions of diversity and reactions to it are partly a function of the characteristics of the perceivers themselves. We define *perceived diversity* as perceptions of dissimilarity held by individuals vis à vis others on the basis of exposure to others' RDA. Our definition implies that despite obvious differences between an observer's RDA and those of the observed, it is possible for perceived diversity to be low. Note that we do not claim that observers always become cognizant of diversity when exposed to others' RDA. At times, as Gilbert and Hixon (1991) observe, cognitive busyness can make individuals oblivious to diversity. In an experiment, the authors demonstrated that English speaking Caucasians who were required to memorise an 8-digit number during exposure to an Asian person did not activate stereotypes, but the not-busy subjects did. This result suggests that perceived diversity plays a role only when people become conscious of the diversity stimulus and feel the need to respond to it.

To a shopper walking down a busy aisle of a grocery store, others in the aisle (no matter how diverse) are mere physical obstacles that need to be circumnavigated – nothing more, nothing less (Macrae et al 1997). Perceived diversity would

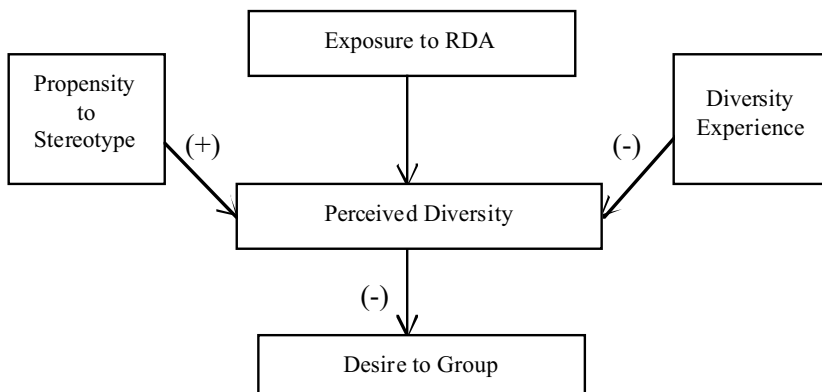


FIGURE 1: HYPOTHESIZED MODEL

surface to the conscious level and gain salience for this shopper only if the shopper were to get interested in the social meaning of the diverse stimuli encountered. For example, on discovering an exotic Asian sauce on the shelves, the shopper could actively seek out ethnically Asian shoppers and solicit their advice before buying the product. We thus recognize that people are not always cognizant of others' RDA, but, consistent with the literature on the subject, argue that when they are, they automatically (or subconsciously) perceive the target to be either similar or dissimilar to self to varying degrees (see Devine, 1989).

### Propensity to stereotype

Perceived diversity is a direct result of social cognition. Jackson and colleagues describe social cognition as '...the inferential logic by which people translate easily detected information about demographic attributes into best-guess hypotheses about personal attributes of a stranger' (1992: 56). We argue that hypothesizing about underlying attributes on the basis of RDA is akin to stereotyping. In a similar vein, Milliken and Martins (1996) note that RDA normally evoke responses that are a direct result of biases, stereotypes, or prejudices.

Stereotypes have been defined in a variety of ways in the literature. See Greenwald and Banaji (1995) for a list of influential definitions of the term. In this paper, we adopt the standard viewpoint that stereotypes are 'beliefs about the characteristics, attributes, and behaviors of members of certain groups' (Hilton & von Hippel 1996: 238). We define *propensity to stereotype* as the tendency of an individual to make inferences about the underlying attributes of others on the basis of others' RDA. So according to our definition, people with high levels of propensity to stereotype (PTS) attach significance to RDA and appear willing to accept that RDA can indicate a lot about a person's underlying attributes. Conversely, people with low levels of PTS do the reverse and resist succumbing to stereotypic beliefs. In many ways they exhibit, what Härtel and Fujimoto (2000) would describe as 'high openness to

dissimilarity' or what Phillips and Ziller (1997) would call, a 'universal orientation.'

The notion of universal orientation is based on Allport's observation that tolerant individuals, being aware of the complexity of human nature, are suspicious of labels, categories and ethnic generalisations and have 'no special need to categorize *quickly*' (1954: 427; emphasis added). It is important to note that Allport does not dispute the fact that stereotypic thoughts could, and do, get *activated* even in tolerant individuals. All he claims is that tolerant individuals are hesitant to *apply* stereotypes. While stereotype activation refers to accessibility of information stored in memory about a target, stereotype application refers to evaluations of the target. It is well established that people, being cognitive misers, tend to readily apply stereotypes to categorize a target unless they have appropriate motives to resist doing so (Kawakimi et al 2000, Macrae, Milne & Bodenhausen 1994). For example, individuals resist applying stereotypes when they experience heightened awareness of egalitarian norms, or when they have sufficient time to think through their responses (Wegener, Clark & Petty 2006), or when they must achieve goals that necessitate factoring in unique and specific information about a group member (Fiske & Neuberg 1990).

Interestingly, advances in cognitive neuroscience have shed light on the mental processes that enable individuals to suppress automatic responses and inhibit information that clashes with their goals (see Baddeley, 1986; Norman & Shallice, 1986). As with other cognitive abilities, there is substantial variance in inhibitory ability (cf. Gernsbacher 1993; May, Kane & Hasher 1995) due to physiological reasons (Payne 2005). While a description of the inhibiting neural processes may be beyond the scope of social sciences, the finding that physiological differences influence inhibitory ability has important implications for scholars studying social cognition. We argue that the finding implies that individuals might differ in their PTS. That is, we hold that some individuals may be able to inhibit stereo-

type application more easily than others (also see von Hippel, Silver & Lynch 2000).

Implicit in our notion of PTS are two viewpoints. Firstly, we imply that PTS is an antecedent of perceived diversity. When people have reason to be cognizant of others' RDA, they access stereotypic beliefs and then apply their beliefs to varying degrees to decide whether the target person is different from self or not. Secondly, we argue that PTS has two distinct dimensions. One of the dimensions pertains to how much *significance* people attach to RDA. We label this PTS dimension *RDA Significance*. The other dimension pertains to the *speed* with which people process information to reach conclusions about underlying attributes on the basis of RDA. Accordingly, we label the second PTS dimension *Processing Speed*. In consonance with the two distinct PTS dimensions, we state our first hypothesis in two parts:

*H1(a):* The higher the propensity of an observer to attribute underlying personality and character attributes to the target person's RDA, the higher will be the level of perceived diversity (*i.e., RDA Significance (PTS I) will be positively related with perceived diversity*).

*H1(b):* The higher an observer's speed of processing RDA-based information to make inferences about the target person's underlying attributes, the higher will be the level of perceived diversity (*i.e., Processing Speed (PTS II) will be positively related with perceived diversity*).

## Diversity experience

According to Kunda and Thagard (1996: 285), 'The social perceiver needs to decipher and integrate the meanings of incoming pieces of information about a target person and does so on the basis of a pre-existing knowledge base....' This base normally consists of knowledge that might have been gained while interacting with people similar to those in the target group. We define *diversity experience* as the amount of exposure an individual has in dealing with people from different cultures. Sherman (1996) observes that recollections of par-

ticular members of a category in question (*i.e., exemplars*) are most important in the early stages of stereotype development, but as experiences with a category increase, exemplars become less important. The fact that observers with diversity experience tend to rely less on exemplars suggests that such observers probably make room for specific and idiosyncratic information (*i.e., individuating information*) before forming opinions about dissimilarity of self vis à vis others.

Negative responses to diversity in RDA can decrease over time as members of a heterogeneous group interact more with each other (Watson, Kumar & Michaelson 1993). Harrison and colleagues (1998) point out that perceptions based on RDA often change as individuals learn about the underlying attributes of others. Extent of familiarity with other cultures has also been found to influence how individuals process information about persons or objects from other cultures. Mendenhall and Oddou (1985) report that successful expatriate managers tend to reserve their judgment and gather more facts about foreigners before assigning causes to their behavior. Thus those exposed to people from different cultures are likely to concede that beliefs based on RDA have 'enormous potential for error' (Hilton & von Hippel 1996: 241). We hold that individuals with extensive diversity experience are more likely to believe that people with different RDA may share common underlying attributes. Accordingly, we state our second hypothesis:

*H2:* The higher the level of an observer's diversity experience, the lower will be the perceived diversity.

## Desire to group

In an extensive review of social networks, McPherson, Smith-Lovin and Cook (2001) cite over one hundred studies that report the presence of homophily (*i.e.* the tendency to associate and bond with similar others). While early research on interpersonal attraction had focused on similarity of values and attitudes, Riordan and Shore (1997)

point out that research has since been extended to include demographic characteristics as predictors of interpersonal attraction. Since individuals are motivated to maintain their social identities, they tend to not only identify with similar others, but also evaluate them more positively (Tajfel & Turner 1986). The corollary, of course, is that individuals do not gravitate towards dissimilar others.

Less attraction towards out-group members may be attributed to the considerable cognitive effort that is needed to overcome social categorization processes. This cognitive effort effectively increases the psychological costs of interacting with dissimilar others, thereby reducing the benefit-to-reward ratio of such encounters (Jackson et al 1995). Shaw and Barrett-Power (1998) argue that while the cost-of-interaction model assumes rationality (i.e., an ability on the part of perceiver to compare relative levels of efforts and rewards), even models that do not assume rational responses from perceivers could predict similar outcomes. The authors point to the possibility that the extra cognitive effort required to deal with dissimilar others may, on its own, be sufficient to dissuade social mixing.

Summarizing the evidence that supports the similarity-attraction paradigm, Riordan (2000: 135) states 'Overall, individuals who are similar may find interactions easier, reinforcing, and *more desirable*' (emphasis added). We define *desire to group* as an evaluative outcome that makes an individual amenable to teaming with another person. In keeping with self-categorization theory and similarity-attraction paradigm, we hypothesize that:

*H3: The greater the level of perceived diversity between the perceiver and the target person, the less will be the desire on the part of the perceiver to group with the target person.*

## METHOD

### Procedure

An email was sent to the entire staff and student population (approximately 300 members of staff

and 1,900 students) of an Australian university requesting them to participate in a study on the impact of 'person perceptions' on the workplace. A link in the email took the respondents to the personal information section of a website that sought information on their gender, age and work experience. A second link then took them to a questionnaire on *propensity to stereotype* and *diversity experience*. Thereafter, the respondents saw four pictures of diverse individuals – one at a time – and responded to questions regarding self-similarity (i.e., *perceived diversity*) and *desire to group* with the person in the picture. This meant that for each participant, we obtained one measure for each of *diversity experience* and *propensity to stereotype* and four measures (one for each picture) of *perceived diversity* and *desire to group*.

### Participants

After eliminating missing data, we were left with 234 complete responses (i.e., responses by individuals to all the four photographs), of which 108 (46%) were from females. The mean age of the participants was 30 years. Mean work experience was 10.55 years. We concede that the response rate was low, but argue that conventional response-rate yardsticks do not apply to mass web-based surveys. Potential respondents know that researchers can easily send web-based surveys to thousands with almost zero variable costs and therefore tend to ignore such requests (also see Anderson & Gansneder 1995). This tendency is perhaps accentuated amongst students. Being 'time-poor,' students probably have greater aversion to unsolicited mass mails. We could have increased our response rate by requesting people to forward the link to other potential participants, such snow-balling techniques however would have entailed loss of control and made it very difficult to accurately guess the actual response rate. The survey was therefore confined to the student and staff population of the university. In terms of absolute numbers and the statistical technique that we planned to use, 234 complete responses were considered adequate.

Since we wanted to measure only the effects of perceived, and not actual, diversity, we chose not to collect ethnicity or race-related information from the respondents. The reason for this decision will become clearer subsequently. For those who might be interested in actual diversity, we note that as per the official demographic profile, over 45 per cent of the student community was international during the period the experiment was conducted, with a majority of students coming from Scandinavian countries and the US.

## Manipulation

The four pictures used were those of a Brown female teenager from the Indian subcontinent, a Black man with graying hair, an elderly East-Asian woman, and a White Caucasian male teenager. The pictures, downloaded from the internet, appeared on computer screens one at a time in the order mentioned. The background was neutral, the picture size identical, and the individuals wore a similar smile and normal western clothes. Note that the manipulation of RDA ensured that participants, irrespective of their own gender, skin colour and age, *definitely* saw at least two photographs of individuals who were different from their own selves in terms of gender, age, and skin colour. The variability in the four pictures ensured this. So a female participant saw the pictures of two males and vice versa. Similarly, a White participant saw pictures of an East-Asian, a Black, and a Brown person; an East Asian participant saw pictures of a White, a Brown, and a Black person, and so forth. Our intention was to expose the perceivers (i.e., the participants) to targets with RDA obviously different from self.

## Measurement

Since extant scales were not available<sup>1</sup>, we developed our own multiple-item Likert scales with

seven intervals for each of the constructs. The questions were pilot tested through a paper-and-pencil based survey form on 70 students who graduated from the university before the web-based experiment was conducted. The unidimensionality and convergent validity of all the constructs was established using a confirmatory factor analysis procedure with the aid of LISREL 8.30. The goodness and adjusted goodness of fit indices (GFI & AGFI), t-values associated with individual items, squared multiple correlations of the individual items, and analyses of standardized residuals were used to identify the final set of items. See Table 1 for details.

We reasoned that individuals who had worked in multicultural groups and those who had extensive international travel experience could legitimately claim exposure to diverse cultures. Accordingly, we formed a five-item index to measure *Diversity Experience* (see Appendix). The methods used to assess the validity and reliability of reflective measures are generally not appropriate for an index containing formative indicators (Diamantopoulos & Winklhofer 2001). We therefore averaged the responses to the items in the index to arrive at a single measure of the level of diversity experience of each individual. A two-step approach (Anderson & Gerbing 1988) was used to estimate and test the structural equation model.

## RESULTS

### Measurement model

The factor loadings shown in Table 1 indicate that the data fit the specified CFA model rather well. All items load significantly on the respective factors. Table 1 also reports the amount of average variance extracted (AVE) by the items of each construct. This amount is an indicator of discrimi-

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<sup>1</sup> The perceived surface-level diversity scale used by Harrison and colleagues (2002) asked members of an existing group to report how similar/dissimilar were other group members to self in terms of their age, ethnicity, and marital status. The latter was somewhat debatably assumed to be readily detectable through the presence/absence of a wedding ring. Our scale measured diversity perceptions based on exposure to pictures of strangers who were different from the observers in terms of gender, skin colour (a surrogate measure of ethnicity), and age (see Table 1).

TABLE 1: CONFIRMATORY FACTOR ANALYSIS: INDICATORS OF CONVERGENT AND DISCRIMINANT VALIDITY

Scale items	Factor Loadings <sup>b</sup>	Average Variance Extracted
<b>Propensity to Stereotype (PTS)</b>		
<i>RDA Significance (PTS I)</i>		
I feel nationality of a person can indicate a lot about the person	0.29	0.52
I can tell a great deal about a person by knowing his/her age <sup>c</sup>	0.86	
I can tell a great deal about a person by knowing the person's gender <sup>c</sup>	0.86	
<i>Processing Speed (PTS II)</i>		
I can form an opinion about a person within the first few minutes of interacting with the person	0.60	0.39
I find it easy to know what a person is like just by looking at him/her	0.83	
When I first meet someone I tend to notice the differences between myself and the other person <sup>c</sup>	0.34	
<b>Perceived Diversity<sup>a</sup> (PD)</b>		
This person in the picture could be a lot like me	0.95	0.84
The person in the picture and I could have many characteristics in common	0.94	
There may not be much difference between me and the person in the picture	0.86	
<b>Desire to Group (DTG)</b>		
I would like to get to know the person in this picture better	0.88	0.77
If asked, I would volunteer working with this person	0.89	
I think I would enjoy working with the person in the picture	0.90	
The person in the picture could bring fresh perspectives to my work group	0.85	

<sup>a</sup> All perceived diversity items were reverse coded; <sup>b</sup> All factor loadings were significant. <sup>c</sup> Universal Orientation Scale item (Phillips and Ziller, 1997).

Note: 13-item CFA Fit statistic —  $\chi^2(78, N=234) = 1979.75$ , RMSEA = 0.065, CFI = 0.97, NNFI = 0.96, GFI = 0.93, AGFI = 0.89.

nant validity – the rule of thumb being that AVE should exceed 0.50 (Dillon & Goldstein 1984). A value greater than 0.50 indicates that the variance in the measure due to the construct itself exceeds that due to measurement error. Table 1 shows that all the constructs, except for *processing speed* (PTS II), meet this stipulation. Another test for discriminant validity, based on calculating the confidence intervals (two standard errors) around the correlations, found that none of the confidence intervals (including those of PTS II) contained the value 1.0, providing additional support to our measurement model (see Anderson & Gerbing 1998). Table 1 also includes other statistics of relevance in the overall 13-item CFA measurement model. The various indices meet the criterion of a good fit. Table 2 presents descriptive statistics, scale reliabilities, and correlations of the constructs.

## Structural model

Measurement error for all directly observed variables was fixed as the variance of the variable times one minus the reliability of the variable. While setting the error term for the diversity experience measure – the only measure that did not comprise ‘reflective’ variables – the reliability of the index was assumed to be 0.90 (and not 1.00). All the directly observed variables were averaged and collapsed into a single measure. The procedure in effect involved making a trade-off between chi-square and degrees of freedom. The model passed the exact fit chi-square test. The relevant statistics have been included in Figure 2. The values of various fit indices and the root mean square error of approximation (RMSEA) indicate that the data support our hypothesized model.



**TABLE 2: DESCRIPTIVE STATISTICS AND CORRELATION MATRIX**

Construct	M	SD	1	2	3	4	5
1. Perceived Diversity (PD)	3.69	1.28	(0.94)				
2. Desire to Group (DTG)	4.83	1.15	-0.647***	(0.93)			
3. RDA Significance (PTS I)	3.28	1.15	0.236***	-0.108	(0.66)		
4. Processing Speed (PTS II)	3.75	1.16	0.228***	-0.059	0.330***	(0.60)	
5. Diversity Experience (DE)	5.48	1.15	-0.158	0.120	0.129**	-0.028	(n/a)

Note: A response was deemed complete if all the measures pertaining to a picture were available. The software deleted all incomplete responses. N = 234. Co-efficient alphas are in parentheses.

\*\* p < .01; \*\*\* p < .001

*Path Analysis (averaged score).* The standardized coefficients of the paths shown in Figure 2 are of primary concern to us. Conceptually, these coefficients are akin to regression weights (Nunnally & Bernstein 1994). At a purely descriptive level,  $g_{13} = -0.21$  simply means that PD will change by a factor of 0.21 for every unit change in DE, holding constant all other constructs. The negative sign indicates that changes in the two constructs take place in the opposite direction. As indicated in Figure 2, the path coefficient of PTS II to PD ( $g_{12}$ ) was not statistically significant. The data however, supported the hypothesized direction between PTS II and PD. One could argue that there was partial support for hypothesis 1(a). In the overall model, hypotheses 1(b), 2, and 3 were supported.

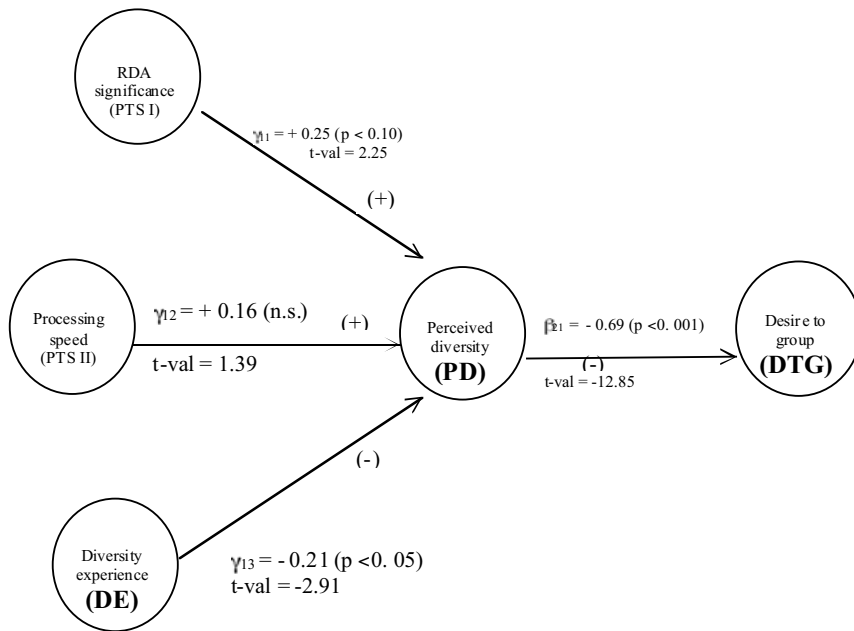
As explained earlier, we averaged the responses to the four pictures while specifying a CFA model for PD and DTG. Thereafter, in the second stage, we estimated a structural model by summing the averaged responses and using the scores as single-item indicators of the two constructs. Averaging the responses to the individual pictures may have helped us cater for within-person variances, but by treating the data in this manner, we did lose a lot of information. We therefore decided to analyse picture-wise responses.

*Path Analysis (individual pictures).* See Table 3 for the path coefficients pertaining to individual pictures. Four aspects of our results on individual pictures are worth noting: (i) The predicted path between PTS II and PD was found to be insignificant in all cases without exception. This raises doubts over the existence of the *processing speed* dimension of PTS. But, as discussed in the next

section, our result might have been different had we adopted a different method to measure PTS II. (ii) The path from DE to PD was statistically significant in all cases except Picture 4 (White Caucasian male teenager). In fact, virtually no relationship was found to exist between DE and PD in the case of Picture 4. This perhaps lends support to Brah's (1992) observation about whiteness being an unacknowledged privilege, in that the subjective experience of being white is the experience of having no colour. (iii) The path between *RDA significance* (PTS I) and PD was statistically significant in all cases, except Picture 3 (East-Asian elderly woman). (iv) The desire to group with those perceived to be similar to self (i.e., the path from PD to DTG) was quite strong across all pictures.

**DISCUSSION, IMPLICATIONS AND CONCLUSIONS**

We could be criticised for 'forcing' a response to manipulations of RDA. But we do not think that our experiment forced an unnatural reaction. While it is true that respondents had to consciously activate stereotypes, we point out that non-conscious activation of age (Perdue & Gurtman 1990), gender (Klinger & Beall 1992), and race (Macrae, Bodenhausen, Milne & Jetten 1994) has also been found to be associated with stereotypical evaluations. By and large, irrespective of whether people apply their stereotypes consciously or otherwise, diversity perceptions still occur. See Bargh (1989) for a discussion of the conditions under which stereotypes get automatically activated. We argue that there are no reasons why the participants would have per-



**FIGURE 2: PATH MODEL OF THE HYPOTHESIZED RELATIONSHIPS**

*Hypothesis for the overall model:* Hom: The direction of relationships between constructs will be as shown in parentheses.

*Summary of Results:* Path coefficients support Hom;

Goodness of Fit Statistics: Chi Square = 4.34,  $df = 3$ ,  $p = 0.23$  ( $N = 234$ ); GFI = 0.99, AGFI = 0.96, CFI = 0.99, NFI = 0.98; RMSEA = 0.04

ceived the diversity stimuli differently had they become aware of dissimilar RDA in a more subtle manner in our experiment.

Whether participants truthfully reported their perceptions is a different matter. Because our not so ‘subtle’ measures made participants conscious of

their stereotypic beliefs, they might have hesitated in reporting the target to be very different from self. The fact that the hypotheses were supported, despite the potential for social desirability effects, suggests that the hypothesized relationships in the workplace are likely to be stronger than what we

**TABLE 3: PICTURE-WISE ANALYSIS**

	Path Coefficients				Exact-fit test statistics		
	$\gamma_{11}$ (PTS I to PD)	$\gamma_{12}$ (PTS II to PD)	$\gamma_{13}$ (DE to PD)	$\beta_{21}$ (PD to DTG)	$\chi^2$	df	p
Picture 1 (Brown female teenager)	+0.31*	0.14	-0.20*	-0.46**	2.13	3	0.55
Picture 2 (Elderly black male)	+0.28*	0.16	-0.24*	-0.31**	2.49	3	0.48
Picture 3 (Elderly East-Asian woman)	+0.22	0.28	-0.19*	-0.53*	3.26	3	0.35
Picture 4 (White Caucasian teenager)	+0.32*	-0.04	-0.04	-0.43***	0.72	3	0.87

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$   $N = 234$

found. It must be said though that social desirability effects were probably mitigated in the experiment – anonymity was assured and the respondents were participating from a remote location.

It is true that neither is interaction in the workplace confined to total strangers nor is information obtained only through a visual signal as was the case in our experiment. We also note that our study ignores the fact that the order in which information about a person is received can affect one's perceptions about the person (Asch 1946, as cited by Kunda & Thagard 1996). Moreover, we did not take into account the context under which perceptions are made. Kunda and Thagard (1996) cite evidence that stereotypes have greater impact on impressions when perceivers are not at their optimal time of the day, or are happy or angry; and that the impact of stereotype decreases when perceivers expect to be accountable for their judgments. Our experiment overlooked the accountability element, as also the possibility that the nature of tasks and the anticipated duration of interactions could also influence diversity perceptions. For instance, an employee who hardly attaches any significance to RDA encountered in a routine one-off meeting may become cognizant of diversity when tasked to work closely with diverse others to produce tangible results in the workplace.

Although demographic profiles in most workplaces are likely to be less heterogeneous than those found in universities, we argue that this fact does not lower the generalizability of our findings. If anything, the level of support for our model would probably be stronger in the workplace. To the extent that tertiary education and working in a multicultural institution lead to more in-depth knowledge of other cultures and greater awareness about the benefits of diversity, the university context had the potential to make the hypothesized relationships weaker. We hasten to add that DE need not prevent *activation* of stereotypes. Indeed, experienced observers are more likely than others

to notice subtle differences in RDA. Further, stereotypes held by such individuals are likely to be more *accurate* than those held by less experienced individuals (see Hall & Carter 1999). All our model implies is that DE might inhibit *application* – as opposed to activation – of stereotypes.<sup>2</sup>

We reiterate that 'application' of stereotypes in the current context means making definitive similarity or dissimilarity judgments. As we have discussed, experienced individuals tend to factor in individuating information before making judgments or similarity evaluations. A number of studies have found that individuating information dilutes stereotypes (see Hilton & Fein 1989; Krueger & Rothbart 1988). So although experienced individuals might be equipped to quickly and accurately correlate between the target person's RDA and underlying characteristics, they are unlikely to make evaluations about similarity/dissimilarity to self based solely on others' RDA.

The correlations reported in Table 2 suggest that one could make a case for introducing a path between DE and PTS I and comparing the results of the re-specified model with those of the model that we have tested. Prior exposure to diverse cultures has the potential to moderate an individual's PTS. Note however that the statistically insignificant relationship between PTS II and DE is a negative one. After refinement, the measures of the two constructs could well reveal a significant curvilinear relationship. As people gain experience in dealing with diverse others, they could, armed with sufficient knowledge, become more confident about speedily applying stereotypic beliefs. Since our theory did not predict a linear relationship between DE and PTS, we chose not to re-specify our model. But the relationships amongst DE, PTS I and PTS II merit further investigation, ideally through techniques that can examine curvilinear relationships.

Hypothesis 1(b) pertaining to PTS II was not supported in either the overall averaged score model or any individual-picture model. Again, our

<sup>2</sup> Our study does not contest the findings of Devine (1989) and Stewart, Weeks & Lupfer (2003) who have shown that high- and low-prejudices individuals are *equally* susceptible to stereotyping. We are merely arguing that low-prejudiced individuals have a lower propensity to stereotype in that they are likely to be more reluctant to 'apply' their stereotypic beliefs.

PTS II measure may be to blame. We relied solely on self-reported items to measure the speed with which people make stereotypic inferences. In hindsight, we could have conducted a separate experiment to measure the tendency amongst respondents to speedily apply their stereotypic beliefs. Actual differences in response times to visual and verbal cues could have been used in conjunction with self-reported PTS II measures. Such an experiment would not only have provided a more accurate PTS II measure, but it would have also eliminated traces of common-methods bias that must be present in our current results. Also, to better reflect the context under which diversity manifests itself in the workplace, future experiments on diversity perceptions could involve multicultural groups engaged in performing specific time-bound tasks. The types of goals and nature of tasks could be manipulated to gain deeper insights into the antecedents and consequences of PD.

Future studies may also need to address the problem of multicollinearity between our DE and DTG measures. For example, the DE-item, 'I often interact with people from diverse cultures' also reflects DTG. Such an overlap is perhaps unavoidable. Those who often interact with others acquire diversity experience, and, at the same time, display behaviors that may be construed as DTG behaviours. This fact notwithstanding, we recognise that our DE measures, like our PTS II measures, need refinement. Currently, the DE items pertain only to exposure to people from ethnically diverse cultures (see Appendix), but note that in addition to manipulating ethnicity or skin colour, the pictures in our experiment also manipulated age and gender. There may thus be a case for expanding the definition of diversity experience to include exposure to people of different gender and age. The DE index could then be augmented to incorporate age- and gender-related items. One of the reviewers of this manuscript suggests that the DE index could include fact-based questions (e.g., How many countries have you visited? How many countries have you lived in?) in place of items that rely on subjective perceptions.

In our experiment, we manipulated more than one RDA at the same time and may have ended up manipulating 'attraction' as well. We argue however, that facial features or attraction could also be treated as RDA. Given our aim, we reasoned that an inadvertent (and unavoidable) manipulation of attraction would not necessarily detract from our findings. We were not interested in identifying the source of actual differences in RDA – it could have been one, two, or all three of age, gender, and skin colour. We however recognise that there may be merit in studying how actual differences in RDA influence diversity perceptions. For example, differences in skin colour exert greater influence on PD than differences in gender. Scholars interested in a fine-grained analysis of PD may need to control additional variables.

Finally, we must discuss whether PTS and DE moderate the relationship between *actual diversity* (i.e., actual differences in the perceiver and the target's RDA) and *perceived diversity*. It could well be that actual diversity (AD) accounts for bulk of the variance in PD; and PTS and DE, on being introduced, merely add to the variance in PD accounted for by AD. But because we did not measure AD completely, we could not test this alternative model. Recollect that while we controlled for actual age and gender, we did not control for ethnicity or the skin-colour of the participants. We reiterate that our intention was to shed the 'AD heavy baggage' and concentrate solely on PD. As we argue below, fixation with AD obfuscates some important issues and is perhaps a US-centric way of studying the effects of diversity, particularly race-related diversity.

Consider why a person might look at a picture of another and, on being asked, strongly agree or disagree that the target could be similar to self. Invoking AD to explain this person's perception may not take one far. After all, what does one learn on being told that White teenagers tend to think that they are different from Brown teenagers? Not much, save for the fact that brown and white are different colours. We believe that one's own skin colour (or some other RDA) may

or may not influence one's perceptions of diversity. Instead, the inferences that one makes on noticing a target's skin colour (or some other RDA) contribute to one's diversity perceptions. It is this willingness to stereotype that, when invoked, can explain why individuals respond differently despite being exposed to similar stimuli. In our experiment, participants were exposed to similar stimuli in the sense that each participant saw the photographs of at least two individuals who differed from self in age, gender, and skin colour.

Since we did not intend to invoke AD to explain our findings, we chose not to collect information on the ethnicity of participants. Note that data on age, gender, and work experience were collected for claiming generalisability and not for explaining variance in PD of the participants. Proponents of AD would be quick to point out that *actual* demographic differences are easy to measure; they correlate with differences in underlying attributes; and they can evoke biases, prejudices or stereotypes (Harrison et al 2002; Milliken & Martins 1996). *Prima facie* these are sound reasons to favour AD measures and scholars in the area have tended to use actual differences in RDA as surrogate measures for diversity as a whole (i.e., AD measures have been used for measuring differences in RDA *and* in underlying attributes). But ironically, as we argue below, the reasons cited for measuring AD underscore the central importance of PD, DE, and PTS.

As stated earlier, scholars argue that actual differences in RDA would not be important if the differences were not correlated with underlying attributes and if RDA did not evoke biased responses amongst people. In effect, diversity scholars claim that those exposed to RDA different from self assume things about the underlying attributes of the target, and also believe that their assumptions about the target as perceived by them are accurate. Thus to establish the tenability of their claim, scholars would have to determine whether individuals are equally *amenable* to making assumptions, and whether individuals believe that their stereotypical assumptions are *accurate*.

We have shown in this exploratory study that amenability to making assumptions may be accounted for by a perceiver's PTS, and that the perceiver's DE has implications for the accuracy issue. Note also that it is the *perceptions* on exposure to RDA that play a key role. Could it be that researchers have been focusing on AD simply because it is easier to measure actual demographic differences than it is to measure PD?

In fact, one wonders whether, in the current context, scholars err in believing that AD could be easily measured. While measures of differences in gender and age may be easy to obtain, the same cannot be said of differences in skin colour and ethnicity. Given the fact that skin colour and ethnicity appear to have greater effects (see the summary provided by Milliken & Martin 1996; and Riordan 2000), proponents of AD must confront the challenge of measuring skin-colour. Is black closer to white or to brown? What about people with mixed parentage – say an East-Asian father and a Caucasian mother? Are such people 'actually' more similar to Caucasians than they are to East-Asians? Eventually, one must turn to perceptions of diversity for answers. As noted in our introduction, we concur with Harrison and colleagues (2002) who state that differences can produce effects only when perceived.

Diversity researchers ought to pay heed to Cousin (2002) who forcefully argues that counting diversity, especially when it involves skin-colour, is anything but straightforward. A majority of studies on the subject are from the US and mostly concentrate on Blacks. But in the Australian context, it may be more relevant to study if the White Italian, Irish, Polish, or Greek immigrants have common underlying attributes. Is one wrong in assuming that White ethnic minority members are unlikely to be 'victims' of stereotyping in predominantly white workplaces? Concentrating on actual differences in RDA in their case is unlikely to be of any value. Similarly, in the case of India, one of the most diverse countries in the world, reliance on AD would be futile. There may be no discernible differences in skin colour and physical fea-

tures amongst Indians, who may otherwise worship different gods, eat different food, have different value systems, and speak different languages. People from China and other East Asian countries too could look similar – at least to an inexperienced eye – but have diverse underlying attributes.

In any event, even if people from a region as diverse as East Asia are found to have common underlying attributes, the finding would be a macro-level finding and not a license to assume that East-Asians are identical at the micro-level (i.e., the individual level). As discussed earlier, people have a tendency to categorize others, but they can never be, or should never be, totally confident of applying macro-level stereotypes to a micro-level context. There is perhaps a need for scholars to sensitise people to the pitfalls of applying diversity-related stereotypes with impunity. This is something that they have failed to do. On the contrary, by treating differences in RDA as surrogate measures of differences in underlying attributes, scholars have perhaps been guilty of inadvertently encouraging people to stereotype. Could their decision to measure AD, as opposed to PD, be transmitting a subliminal message to the larger community that it is generally acceptable to make conclusions about underlying attributes solely on the basis of RDA?

We have suggested that it may be something inherent in the perceiver, and not something about the target, that evokes biases and stereotypes. Has the fixation with actual differences in RDA led ill-informed governments to design public policies and affirmative action plans that fulfill their own prophecy? Academics have concentrated on finding actual differences across ethnic groups; and it is hardly surprising that they have found them. As Cousin (2002: 50; emphasis in original) remarks, 'Racism and discrimination tells us that ethnicity *does* matter and that is why we count it but we cannot always know to what extent and in which event it matters and by saying that it matters, are we making it matter more than it does?'

It may be time for researchers in the area to consider identifying similarities in underlying attributes across ethnic groups. Future studies

could discover that some Japanese are more American than some Americans themselves and vice versa. Similarities in underlying attributes across ethnic groups and nationalities may debunk stereotypes and reveal that underlying attributes are not as strongly correlated with RDA as the prevailing wisdom suggests. Our exploratory study reflects some of this thinking. Further research will no doubt refine and extend the model that we have tested. But even in its current state, the model has some important implications.

The foregoing discussion implies that PD could be scrutinised in its own right. Although social scientists have linked inhibitory ability with stereotyping, they are yet to link stereotyping with diversity perceptions. Extant evidence on stereotyping typically relies on implicit association tests (IAT) that use written words to measure the strength of automatic association between mental representations of objects in memory (Gilbert & Hixon 1991). For example, a study reports that participants could recollect stereotypic word pairings like '*skinhead* and *aggressive*' more easily than they could a pairing like '*skinhead* and *curious*' (Macrae, Milne & Bodenhausen 1994). But 'because we cannot assume a one to one correspondence between language and reality, we may not take it for granted that the same principles of social perception will be generated by studying words as by studying the actual social objects for which these words stand' (Zanonc 1980: 192). Our methodology eschews verbal categorizations and circumvents the problem inherent in IAT by relying on visual signals. We believe that further theoretical advances in the area of social cognition may come from focusing on perceived, and not actual, diversity. Such a change in focus may also prompt scholars to critically reassess the manner in which extant literature has operationalised stereotyping.

Insofar as implications for practice are concerned, knowledge about the antecedents of PD can inform an organization's selection systems and diversity training programmes. Recruitment practices engender homogeneity as organizations tend to tap social networks of their current

employees, especially for filling key positions (see Konrad 2006). Given the strong homophilic tendencies amongst humans, it would be impractical to expect employees to find similar others unattractive. However, organizations may be able to mitigate some of the negative consequences of homophily by selecting low PTS individuals from their traditional feeder pools. Indeed, doing so may be critical for positions that entail frequent interactions with diverse others.<sup>3</sup>

Irrespective of whether firms can find people with low PTS, they should remain committed to influencing perceptions by increasing the diversity experience levels of their employees by affording them opportunities to work in diverse groups. Formal policy initiatives which make it mandatory for key managers to work in multicultural groups may go a long way in making organizations more open to dissimilarity. Somewhat counter-intuitively, research reveals that instructions to avoid stereotyping in the workplace tend to have an adverse effect and lead to an increase in stereotyping in the long run (Frazer and Wiersma 2001; Kulik, Perry & Bourhis 2000). Our study implies that rather than asking employees to avoid stereotyping, diversity trainers should, where possible, strive to expose inaccuracies in stereotypic beliefs. Further, for maximum influence on perceptions, diversity training should preferably be delivered by trainees' in-group members.

We found some evidence that diversity perceptions might matter in significant ways in the workplace. In what was an exploratory model, we only chose to predict the desire of individuals to group with others on the basis of PD. If extant literature on AD and relational demography is any indication, perceptions of diversity should also be able to account for variance in frequency of communication, levels of conflict, employee turnover rates, and so forth (see Riordan 2000). Clearly, it is not enough for organizations to comply with legislation on affirmative action.

They may also need to influence how employees perceive diversity if their culturally diverse workforce is to realise its true potential. It is in this context that knowledge about the antecedents of PD can prove useful. Organizations may not be able to alter their employees' RDA, but they can influence diversity perceptions by facilitating DE and filling key positions with low PTS individuals. We urge scholars to explore this promising avenue in order to help organizations cope with the formidable challenge of managing diversity.

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## References

- Allport G (1954) *The nature of prejudice*, Addison-Wesley: Cambridge MA.
- ▶ Anderson JC and Gerbing DW (1988) 'Structural Equation Modeling in practice: A review and recommended two-step approach', *Psychological Bulletin* 103: 411-423.
- ▶ Anderson SE and Gansnedder BM (1995) 'Using electronic mail surveys and computer monitored data for studying computer mediated communication systems', *Social Science Computer Review* 13(1): 33-46.
- ▶ Asch SE (1946) 'Forming impressions of personality'. *Journal of Abnormal and Social Psychology* 41: 303-314.
- ▶ Ashkanasy NM, Härtel CEJ and Daus CS (2002) 'Diversity and emotion: The new frontiers in organizational behavior research', *Journal of Management* 28: 307-338.
- Baddeley AD (1986) *Working memory*, Oxford University Press, London.
- Bargh JA (1989) Conditional automaticity: varieties of automatic influence in social perception and cognition, in Uleman JS and Bargh JA (Eds.) *Unintended thought*, pp. 3-51, Guilford, New York.

<sup>3</sup> The relationship between 'openness to new experience', a Big Five personality trait, and PTS is worth exploring. If the two have a statistically significant negative relationship, then it may be possible for organizations to apply a 'Big Five' selection tool to measure PTS levels.

- Brah A (1992) Difference, diversity, and differentiation, in Doanld J and Rattansi A (Eds) *'Race' culture and difference*, Sage, London.
- Cousin G (2002) 'Counting diversity', *Journal of Further and Higher Education* 20(1): 43-52.
- Devine PG (1989) 'Stereotypes and prejudice: Their automatic and controlled components', *Journal of Personality and Social Psychology* 56: 5-18.
- Diamantopoulos A and Winklhofer HM (2001) 'Index construction with formative indicators: An alternative to scale development', *Journal of Marketing Research* 3: 269-277.
- Dillon WR and Goldstein M (1984) *Multivariate analysis: Methods and applications*, Wiley, New York.
- Fazio RH and Dunton BC (1997) 'Categorization by race: The impact of automatic and controlled components of racial prejudice', *Journal of Experimental Social Psychology* 33: 451-470.
- Fiske ST and Neuberg SL (1990) A continuum of impression formation from category-based to individuating processes: Influences of information and motivation on attention and interpretation, in Zanna M (Ed) *Advances in experimental and social psychology*, pp. 1-74, Academic Press, San Diego.
- Frazer RA and Wiersma UJ (2001) 'Prejudice versus discrimination in the employment interview: We may hire equally, but our memories harbor prejudice', *Human Relations* 54: 173-191.
- Fujimoto Y Härtel CEJ Härtel GF and Baker N (2000) 'Openness to dissimilarity moderates the consequences of diversity in well-established groups', *Asia Pacific Journal of Human Resources* 38(3): 46-61.
- Gernsbacher MA (1993) 'Less skilled readers have less efficient suppression mechanisms', *Psychological Science* 4: 294-298.
- Gilbert DT and Hixon JG (1991) 'The trouble of thinking: Activation and application of stereotypic beliefs', *Journal of Personality and Social Psychology* 60: 509-517.
- Greenwald AG and Banaji MR (1995) 'Implicit social cognition: Attitudes, self-esteem, and stereotypes', *Psychological Review* 102(1): 4-27
- Hall JA and Carter JD (1999) 'Gender-stereotype accuracy as an individual difference', *Journal of Personality and Social Psychology* 77(2): 350-359.
- Harrison DA Price KH and Bell MP (1998) 'Beyond relational demography: Time and the effects of surface-level and deep-level diversity on work group cohesion', *Academy of Management Journal* 41(1): 96-107.
- Harrison DA Price KH Gavin JH and Florey AT (2002) 'Time, teams, and task performance: Changing effects of surface- and deep-level diversity of group functioning', *Academy of Management Journal* 45(5): 1029-1045.
- Härtel CEJ and Fujimoto Y (2000) 'Diversity is not the problem: Openness to perceived dissimilarity is', *Journal of the Australian and New Zealand Academy of Management* 5(2): 14-27.
- Härtel CEJ Douthitt S Härtel GF and Douthitt S (1999) 'Equally qualified but unequally perceived: General cultural openness as a predictor of discriminatory performance ratings', *Human Resource Development Quarterly* 10(1): 79-89.
- Hilton JL and Fein S (1989) 'The role of typical diagnosticity in stereotype-based judgments', *Journal of Personality and Social Psychology* 57: 501-511.
- Hilton JL and von Hippel W (1996) 'Stereotypes', *Annual Review of Psychology* 47: 237-271.
- Jackson SE May KE and Whitney K (1995) Understanding the dynamics of diversity in decision making teams, in Guzzo R Salaa E and Associates (Eds) *Team effectiveness and decision making in organization*, pp. 204-261, Jossey-Bass, San Francisco.
- Jackson SE Stone VK and Alvarez EB (1992) Socialization amidst diversity: The impact of demographics on work team oldtimers and newcomers, in Staw BM and Cummings LL (Eds) *Research in Organizational Behavior* 15: 45-109, JAI Press Greenwich CT.
- Kawakami K Dovidio JF Moll J Hermsen S and Russin A (2000) 'Just say no (to stereotyping): Effects of training in negation of stereotyping associations on stereotype activation', *Journal of Personality and Social Psychology* 78: 871-888.
- Klinger MR and Beall PM (1992) *Conscious and unconscious effects of stereotype activation*. Paper presented at the 64th annual meeting of Midwest Psychology Association, Chicago.
- Konrad A (2006) 'Leveraging workplace diversity in organizations', *Organization Management Journal* 3(3): 164-89.
- Krueger J and Rothbart M (1988) 'Use of categorical and individuating information in making inferences about personality', *Journal of Personality and Social Psychology* 55: 187-95.
- Kulik CT Perry EL and Bourhis AC (2000) 'Ironic evaluation processes: Effects of thought suppression on evaluation of older job applicants', *Journal of Organizational Behavior* 21: 689-711.
- Kunda Z and Thagard P (1996) 'Forming impressions



- from stereotypes traits and behaviors: A parallel-constraint-satisfaction theory', *Psychological Review* 103: 284-308.
- Lau D C and Murnighan JK (1998) 'Demographic diversity and faultlines: The compositional dynamics of organizational groups', *Academy of Management Review* 23(2): 325-340.
- Lawrence BB (1997) 'The black box of organizational demography', *Organization Science* 8: 1-22.
- Macrae CN Bodenhausen GV Milne AB and Jetten J (1994) 'Out of mind but back in sight: Stereotypes on the rebound', *Journal of Personality and Social Psychology* 67: 808-817.
- Macrae CN Milne AB and Bodenhausen GV (1994) 'Stereotypes as energy-saving devices: A peek inside the cognitive toolbox', *Journal of Personality and Social Psychology* 66: 37-47.
- Macrae NC Bodenhausen GV Milne AB Thorn TMJ and Castelli L (1997) 'On the activation of social stereotypes: The moderating role of processing objectives', *Journal of Experimental Social Psychology* 33: 471-489.
- May, CP Kane MJ & Hasher L (1995) 'Determinants of negative priming', *Psychological Bulletin* 118: 35-54.
- McPherson M Smith-Lovin L and Cook JM (2001) 'Birds of a feather: Homophily in Social Networks', *Annual Reviews in Sociology* 27: 415-44.
- Mendenhall M and Oddou G (1985) 'The dimensions of expatriate acculturation: A review', *Academy of Management Review* 10(1): 463-491.
- Milliken FJ and Martins LL (1996) 'Searching for common threads: Understanding the multiple effects of diversity in organizational groups', *Academy of Management Review* 21(2): 402-433.
- Norman DA and Shallice T (1986) Attention to action: Willed and automatic control of behavior, in Davidson, RJ Schwartz GE and Shapiro D (Eds) *Consciousness and self-regulation: advances in research and theory*, pp. 1-18, Plenum, New York.
- Nunnally JC and Bernstein IH (1994) *Psychometric Theory*, McGraw-Hill, New York.
- Payne KB (2005) 'Conceptualizing control in social cognition: How executive functioning modulates the expression of automatic stereotyping', *Journal of Personality and Social Psychology* 89: 488-503.
- Pelled LH (1996) 'Demographic diversity conflict and work group outcomes: an intervening process theory', *Organization Science* 7: 615-631.
- Perdue CW and Gurtman MB (1990) 'Evidence for the automaticity of ageism', *Journal of Experimental Social Psychology* 26: 199-216.
- Phillips ST and Ziller RC (1997) 'Toward a theory and measure of the nature of nonprejudice' *Journal of Personality and Social Psychology* 72: 420-432.
- Riordan CM (2000) 'Relational demography within groups: Past developments contradictions and new directions', *Research in Personal and Human Resource Management* 19: 131-173.
- Riordan CM and Shore LM (1997) 'Demographic diversity and employee attitudes: An empirical examination of relational demography within work units', *Journal of Applied Psychology* 82 (3): 342-358
- Shaw JB and Barrett-Power E (1998) 'The effects of diversity on small work group processes and performance', *Human Relations* 51(10): 1307-1325.
- Sherman JW (1996) 'Development and mental representation of stereotypes', *Journal of Personality and Social Psychology* 70: 1126-1141.
- Stewart TL Weeks M and Lupfer MB (2003) 'Spontaneous stereotyping: A matter of prejudice?' *Social Cognition* 21(4): 263-298.
- Tajfel H and Turner J (1986) The social identity theory of intergroup behavior, in Worchel S and Austin WG (Eds) *The social psychology of intergroup relations*, pp. 7-24, Nelson-Hall, Chicago.
- Tsui AS Egan TD and O'Reilly CA (1992) 'Being different: Relational demography and organizational attachment', *Administrative Science Quarterly* 37: 547-579.
- Turner JC (1987) *Rediscovering the social group: A self-categorization theory*, Basil Blackwell, Oxford.
- von Hippel W Silver LA and Lynch ME (2000) 'Stereotyping against your will: The role of inhibitory ability in stereotyping and prejudice among the elderly', *Personality and Social Psychology Bulletin* 26: 523-532.
- Watson WE Kumar K and Michaelsen LK (1993) 'Cultural diversity's impact on integration process and performance: Comparing homogeneous and diverse task groups', *Academy of Management Journal* 36(3): 590-602.
- Wegener DT Clark JK & Petty RE (2006) 'Not all stereotyping is created equal: Differential consequences of thoughtful versus nonthoughtful stereotyping', *Journal of Personality and Social Psychology* 90: 42-59.
- Zajonc RB (1980) Cognition and social cognition: A historical perspective, in Festinger L (Ed) *Retrospections on social psychology*, pp. 180-204. Oxford University Press, New York.

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