

Provided for non-commercial research and education use.
Not for reproduction, distribution or commercial use.



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>



Contents lists available at SciVerse ScienceDirect

Journal of Experimental Social Psychology

journal homepage: www.elsevier.com/locate/jesp

Reports

Narrowing down to the automatically activated attitude: A narrowed conceptual scope improves correspondence between implicitly and explicitly measured attitudes

Jeffrey R. Huntsinger

Department of Psychology, Loyola University Chicago, 1032 W. Sheridan Road, Chicago, IL 60660, USA

ARTICLE INFO

Article history:

Received 24 April 2012

Revised 11 July 2012

Available online 17 August 2012

Keywords:

Global processing

Local processing

Conceptual attention

Implicit measure

Explicit measure

Implicit social cognition

ABSTRACT

People display a remarkable ability to focus either broadly or narrowly on their internal mental landscape. This project examined if such shifts in conceptual attention regulated correspondence between implicit and explicit measures of attitudes. Because a broadened conceptual focus should cause the mind to be awash in a rather disparate assortment of attitude-relevant material that all needs to be integrated, this was predicted to dilute the impact of activated attitudes, as estimated by the implicit measure, on explicit reports of attitudes. Because a narrowed conceptual focus should cause only the most accessible attitude-relevant material (i.e., the activated attitude) to enter the mind, this was predicted to maximize the impact of such attitudes on explicit reports of attitudes. These predictions were subjected to empirical scrutiny and confirmed in three experiments that employed two different manipulations of conceptual scope, two different attitude objects, and two different implicit measures of attitudes.

© 2012 Elsevier Inc. All rights reserved.

Introduction

People display an amazing ability to visually zoom in and out, to focus on the forest or the trees. Just as people may focus broadly or narrowly on their external physical landscape, they may also focus broadly or narrowly on their internal mental landscape. Whereas the former reflects shifts in the scope of perceptual attention, the latter reflects shifts in the scope of conceptual attention, which refers to selection of internal mental representations, and involves the breadth of construct activation (Anderson & Neely, 1996; Anderson & Spellman, 1995; Förster & Dannenberg, 2010; Martindale, 1995). When conceptual attention is narrowly focused, activation is restricted to mental representations with the highest *a priori* accessibility (i.e., a limited range of concepts are called to mind). When conceptual attention is broadly focused, activation spreads to a range of mental representations, including those with low *a priori* accessibility (i.e., a wide range of concepts are called to mind). This project concerns the consequences of focusing broadly or narrowly on one's internal mental environment for correspondence between implicit and explicit measures of attitudes.

From the early days of attitude research, when investigators wanted to know people's attitudes they simply asked them to mark a number on a rating scale (Hovland et al., 1953; Thurstone, 1928). For the past two decades, however, investigators have had a choice between traditional self-report measures and several new measures

of attitudes that do not require people to directly report their attitudes. Instead, attitudes are inferred from these newer measures based on participants' performance during the task. Such implicit measures typically take the form of response latency tasks, such as the implicit association task (IAT; Greenwald, McGhee & Schwartz, 1998) and evaluative priming tasks (Fazio et al., 1986), or other tasks in which the measurement of attitudes is obscured, such as the name-letter task (Nuttin, 1985).

Implicit measures of attitudes are thought to capture spontaneous evaluative tendencies, such as automatically activated attitudes, whereas explicit measures are thought to capture more deliberative or elaborated evaluative tendencies (Cunningham & Zelazo, 2007; Fazio & Olson, 2003; Gawronski & Bodenhausen, 2006; Hofmann & Wilson, 2010; Strack & Deutsch, 2004). One way to think about the relation between implicit and explicit measures of attitudes, then, is that explicit measures reflect an evaluation that is further "downstream" than that revealed by implicit measures (Fazio & Olson, 2003; Gawronski & Bodenhausen, 2006). In recent years, much research has focused on identifying those downstream factors that will lead people's responses on explicit measures to more or less faithfully reproduce those on implicit measures (e.g., Fazio, 2007; Gawronski & Bodenhausen, 2006; Greenwald & Nosek, 2008; Hofmann & Wilson, 2010; Nosek, 2007; Petty et al., 2007; Rydell & McConnell, 2006; Wilson, Lindsey & Schooler, 2000).

Hofmann and Wilson (2010) recently proposed a general model of implicit-explicit consistency that outlines several factors that may impact whether people rely on activated attitudes, as estimated by implicit measures, when completing explicit measures of attitudes.

E-mail address: jhuntsinger@luc.edu.

One such factor, for example, is whether people perceive an activated attitude as a valid basis for their verbally reported attitudes (Fazio, 2007; Gawronski & Bodenhausen, 2006, 2011; Hofmann & Wilson, 2010). In some cases, such validation of activated attitudes may result from their consistency or inconsistency with other accessible information (Gawronski & Bodenhausen, 2006, 2011). In other cases, people may accept or reject activated attitudes as a basis for explicit reports for motivational reasons, such as self-presentational concerns (Fazio, 2007). People motivated to appear egalitarian or unprejudiced often reject activated negative attitudes toward stigmatized groups, and therefore display little correspondence between implicitly and explicitly measured intergroup attitudes (Dunton & Fazio, 1997; Payne et al., 2005).

Another factor identified by Hofmann and Wilson (2010) concerns processes of information integration (Anderson, 1981). The idea here is that if additional attitude-relevant information, beyond the activated attitude, is retrieved from long-term memory and, therefore, needs to be integrated into a coherent summary judgment, the impact of activated attitudes on verbal attitude reports will be diluted. Conversely, if little additional attitude-relevant information, other than an activated attitude, is retrieved from long-term memory then explicit reports should be more likely to resemble activated attitudes (Hofmann & Wilson, 2010). Consistent with this idea, factors that prevent additional information integration, such as when explicit reports are made under time pressure, lead to higher implicit-explicit consistency (Koole et al., 2001; Ranganath et al., 2008).

Of the factors discussed above, shifts in the scope of conceptual attention seem most likely to impact processes of information integration. A broadened scope of conceptual attention facilitates access to cognitive material with lower a priori accessibility, allowing a collection of loosely related attitude-relevant material to enter the mind. When explicitly reporting one's attitudes, such a conceptual focus should cause the mind to be awash in a rather disparate assortment of attitude-relevant material that all needs to be integrated. In this case, because such a large amount of materials needs to be integrated into a coherent whole, the impact of activated attitudes, as estimated via the implicit measure, on explicit reports should be minimized. A narrowed scope of conceptual attention inhibits access to cognitive material with lower a priori accessibility, allowing only the most highly accessible material to enter the mind. Now, when explicitly reporting one's attitudes, such a conceptual focus should cause one to only entertain the most accessible attitude-relevant material (i.e., the activated attitude) when making an explicit report. In this case, because the only thing in mind on which to base an explicit report is the activated attitude, the impact of the activated attitude on such reports should be maximized.

To illustrate, consider explicitly reporting one's attitude toward several academic subjects (e.g., Psychology, Physics, etc.). When reflecting on each subject, a person with a broadened conceptual scope will have a heterogeneous collection of attitude-relevant material and experiences come to mind. This material will include the activated attitude, of course. However, when completing the explicit measure, this flood of relatively remotely associated material must be integrated into a coherent, summary evaluation. As a result, the activated attitude will be given less weight in the explicit report. Consider the same situation, but the person now has a narrow conceptual scope. When reflecting on each academic subject, a person with a narrowed conceptual scope will have little additional attitude-relevant material and experiences come to mind, other than the activated attitude. Thus, when completing the explicit measure little integration is necessary as the only thing in mind is the activated attitude. As a result, the activated attitude will be given greater weight in the explicit report.

These predictions were subjected to empirical scrutiny across three experiments that employed two different manipulations of conceptual scope, two different attitude objects, and two different

implicit measures of attitudes. In each experiment, explicit measures of attitudes were predicted and found to more closely resemble activated attitudes, as estimated via the implicit measures, for participants with a narrow conceptual focus than those with a broad conceptual focus.

Experiment 1

Participants in this experiment first completed an implicit measure of academic attitudes. Next they experienced the manipulation of conceptual scope. Finally, participants completed the explicit measure of academic attitudes. Explicitly measured academic attitudes were predicted to more closely reflect implicitly measured academic attitudes when a narrow as opposed to broad conceptual scope was primed.

Method

Participants

Sixty-nine female participants completed the experiment for course credit.¹

Materials and procedure

The experiment involved several stages. First, participants completed the implicit measure of academic attitudes. Second, participants completed a task that primed a broad or narrow conceptual scope. Third, participants completed the explicit measure of academic attitudes.

Implicit measure. The Implicit Association Test used to measure academic attitudes, identical to that used in past research (Nosek et al., 2002), assessed associations between attitude objects (e.g., math and arts) and evaluative attributes (e.g., pleasant and unpleasant). Participants completed the task in seven blocks following the recommendations of Nosek et al. (2005). All reported analyses used the *D* measure as the measure of academic attitudes (Greenwald et al., 2003). Higher values on this measure indicated a more positive implicitly measured attitude toward arts than math. The implicit measure exhibited good internal consistency (Spearman-Brown coefficient = .83).

Manipulation of conceptual scope. Given the close connection between perceptual and conceptual scope (Anderson & Neely, 1996; Derryberry & Tucker, 1994; Förster & Dannenberg, 2010), following past research (Förster et al., 2008) a variant of the Navon-letter-task was used to prime conceptual focus. This manipulation represents a form of procedural priming (Schooler, 2002) in which a cognitive tendency activated in one task, in this case a broadened or narrowed conceptual scope, carries over, without participants' awareness, to other unrelated tasks, in this case the explicit measure. On each trial, a large letter made up of smaller letters appeared on a computer screen. Four of the composite letters included global targets (e.g., an H made of F's) and four included local targets (e.g., an F made of L's). Participants were instructed to press the "L" key if the letter "L" appeared in the compound stimulus, and press the "H" key if the letter "H" appeared. In the broad conceptual scope condition, all 80 trials had global-letter targets whereas in the narrow conceptual scope condition all 80 trials had local-letter targets.

Explicit measure. Following past research (Nosek et al., 2002), participants were asked to describe where their feelings toward mathematics (or arts) were located using the following six scale anchors: good–bad; sad–happy; delightful–disgusting; ugly–beautiful; avoid–approach; unafraid–afraid (scale anchors 1 to 7). After

¹ Participants in Experiments 1 and 2 first completed an unrelated study in which only women were recruited.

appropriate rescaling, composite measures of math ($\alpha = .80$) and arts ($\alpha = .83$) attitudes were created. Finally, a difference score was computed by subtracting the composite measure of math attitudes from the composite measure of arts attitudes. Positive values indicated a more positive explicitly measured attitude toward arts than math.

Results and discussion

Implicitly measured academic attitudes ($M = 0.43$, $SD = 0.37$) and explicitly measured academic attitudes ($M = 1.48$, $SD = 1.88$) were uncorrelated ($r = .19$, $p = .12$). The main prediction was that participants' conceptual scope would regulate implicit-explicit correspondence. In particular, it was predicted that explicitly measured attitudes would more faithfully reflect activated attitudes for participants with a narrow conceptual focus than those with a broad focus. This prediction was evaluated via regression. Specifically in the model, explicit academic attitudes were regressed on implicit academic attitudes (mean-centered), conceptual scope (1 = narrow, -1 = broad), and their interaction. This analysis yielded a significant interaction, $b = .56(.22)$, $t(65) = 2.54$, $p < .05$ (Fig. 1).

As predicted, simple slopes analysis revealed that participants with a narrow conceptual scope displayed significant correspondence between their implicit and explicit academic attitudes, $b = .93(.31)$, $t(65) = 2.97$, $p < .005$. For participants with a broad conceptual scope, by contrast, implicitly and explicitly measured academic attitudes were unrelated, $b = -.18(.31)$, $t(65) = .60$, $p = .55$. Consistent with predictions, participants with a broadened conceptual focus displayed no relationship between implicitly and explicitly measured attitudes, whereas those with a narrowed conceptual focus displayed a strong positive relationship between these two attitude measures.

Experiment 2

A second experiment was conducted with two goals in mind. The first goal was to disentangle whether a narrowed conceptual scope, a broadened conceptual scope, or both drove the results of Experiment 1. To accomplish this, a control condition was added to the manipulation of conceptual scope in which both types of focus were primed equally. The second goal was to generalize these results to another attitude object, in this case the self.

Method

Participants

One hundred and thirty-one female participants took part in this experiment for partial fulfillment of a course requirement.

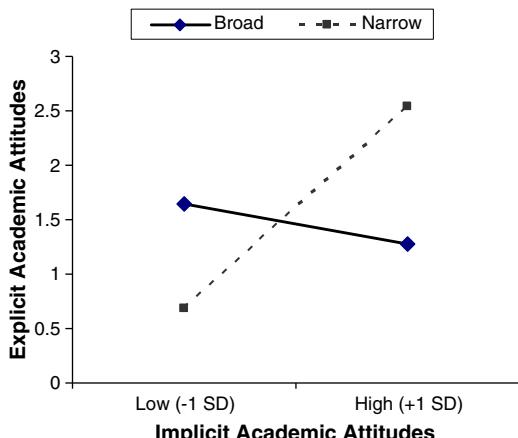


Fig. 1. Explicit academic attitudes as a function of conceptual scope (broad vs. narrow vs. control) and implicit academic attitudes (Experiment 1).

Materials and procedure

The procedure for this experiment was virtually identical to that of Experiment 1 with the changes being that, instead of focusing on academic attitudes, self-attitudes were measured, and a control condition (described below) was added to the manipulation of conceptual scope.

Implicit measure. The Implicit Association Test served as the implicit measure of self-esteem (Greenwald & Farnham, 2000). The IAT assessed associations between attitude objects (e.g., self and object) and evaluative attributes (e.g., pleasant and unpleasant), and all stimuli were identical to those used in past research (Jordan, Whitfield & Ziegler-Hill, 2007). All reported analyses used the D measure as the measure of self-attitudes, with higher values indicating more positive implicitly measured self-attitudes (Spearman-Brown coefficient = .50).

Manipulation of conceptual scope. This task was procedurally identical to that of Experiment 1 with the only change being the addition of a control condition in which 40 trials had global-letter targets and 40 trials had local-letter targets.

Explicit measure. The 10-item Rosenberg self-esteem scale served as the explicit measure of self-esteem ($\alpha = .89$). Items on this scale include: "I feel that I am a person of worth, at least on an equal basis with other people" (1 = very strongly disagree, 7 = very strongly agree). Higher values indicated more positive explicitly measured self-attitudes.

Results and discussion

Implicitly measured self-attitudes ($M = 0.39$, $SD = 0.28$) and explicitly measured self-attitudes ($M = 5.27$, $SD = 1.08$) were uncorrelated ($r = .08$, $p = .37$). Predictions were evaluated via regression. The main prediction was that participants' conceptual scope would regulate implicit-explicit correspondence. To test this prediction, multiple regression analyses were conducted predicting explicitly measured self-attitudes from implicitly measured self-attitudes (mean centered), conceptual scope condition (the three levels were represented by two dummy codes that compared the narrow and broad conditions [narrow = 1, broad = 0, control = 0] and the broad and control conditions [narrow = 0, broad = 0, control = 1]; West et al., 1996), and their interactions. Main effects were entered in the first step, followed by the interactions in the second step. The second step was significant, indicating that the interaction between implicitly measured self-attitudes and conceptual scope condition was significant ($R^2\text{change} = .075$), $F(2, 125) = 5.22$, $p < .01$.

Computation of simple slopes revealed that, as predicted, participants with a narrow scope displayed significant correspondence between implicitly and explicitly measured self-attitudes, $b = .40(.15)$, $t(125) = 2.70$, $p < .05$ (Fig. 2). For participants with a broad scope, by contrast, these measures were somewhat negatively related, $b = -.29(.15)$, $t(125) = 1.88$, $p = .06$. Participants in the control condition showed no significant relation between implicitly and explicitly measured self-attitudes, $b = .11(.18)$, $t(125) = 0.65$, $p = .52$. Finally, decomposition of the interaction into the two dummy-coded vectors revealed that the degree of implicit-explicit correspondence observed in the narrow scope condition differed significantly from that found in the broad scope condition, $b = .68 (.21)$, $t(125) = 3.23$, $p < .01$. The degree of correspondence found in the broad scope condition was not significantly different from that found in the control condition, $b = .40(.23)$, $t(125) = 1.72$, $p = .09$.

Conceptually replicating the results of Experiment 1, participants with a narrow conceptual scope displayed greater correspondence between implicit and explicit self-attitudes than those with a broad scope. This result occurred because a narrow conceptual scope

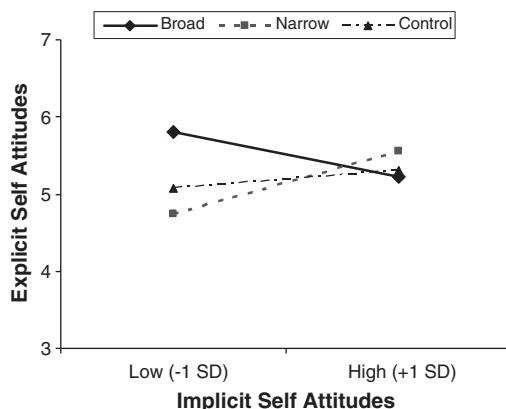


Fig. 2. Explicit self attitudes as a function of conceptual scope (broad vs. narrow vs. control) and implicit self attitudes (Experiment 2).

enhanced implicit-explicit correspondence above baseline levels, whereas a broad focus had no effect on correspondence.

Experiment 3

The results so far revealed that a narrowed conceptual focus, as compared to a broadened conceptual focus and no focus, led explicitly measured attitudes to more faithfully reflect automatically activated attitudes, as estimated by the implicit measure. A goal of this experiment was to rule out the possibility that the effect of conceptual scope observed in Experiments 1 and 2 is peculiar to the IAT and/or the manipulation of conceptual scope employed in these studies. To this end, the name-letter task (Nuttin, 1985) was used as the implicit measure of self-attitudes in this experiment, and conceptual scope was manipulated via a maze task (Förster, Friedman, Ozelsel & Denzler, 2006).

Method

Participants

Ninety participants (67 women, 23 men) took part in this experiment for partial fulfillment of a course requirement.

Materials and procedure

The procedure for this experiment was identical to that of Experiment 2 with the only change being that the name-letter task was used as the implicit measure of self-attitudes, and the maze task described below was used to manipulate conceptual scope.

Implicit measure. The name-letter task (Nuttin, 1985) was used as the implicit measure of self-attitudes. In this task, participants were asked to indicate how much they liked or disliked the letters of the alphabet. Below these instructions the letters of the alphabet were arranged in one of four random orders. Participants' ratings were made on a 7-point scale with the following endpoints: 1 = *I dislike this letter very much* to 7 = *I like this letter very much*. The name-letter task was scored via the ipsatized double-correction algorithm, as recent research shows that this scoring algorithm exhibits the most optimal psychometric properties (LeBel & Gawronski, 2009). The internal consistency of this measure was low (Spearman-Brown coefficient = .35). Higher values on this measure indicated more positive implicitly measured self-attitudes.

Manipulation of conceptual scope. Following past research (e.g., Förster et al., 2006), to manipulate conceptual scope, participants were asked to complete a maze in which a mouse was escaping from an owl or attempting to find a piece of cheese. Past research has shown that the owl maze activates a narrowed conceptual scope, whereas the cheese

maze activates a broadened conceptual scope. In the control condition, participants completed the same maze, but the owl and cheese were omitted.

Explicit measure. The 10-item Rosenberg self-esteem scale again served as the explicit measure of self-attitudes, with higher values indicating more positive explicitly measured self-attitudes ($\alpha = .87$).

Results and discussion

Implicitly measured self-attitudes ($M = 1.83$, $SD = 1.10$) and explicitly measured self-attitudes ($M = 4.94$, $SD = 0.74$) were correlated ($r = .23$, $p = .03$). Predictions were evaluated via regression. The main prediction was that participants' conceptual scope would regulate implicit-explicit correspondence. To test this prediction, multiple regression analyses were conducted predicting the explicit measure of self-attitudes from the implicit measure of self-attitudes (mean centered), conceptual scope condition (same dummy coding scheme from Experiment 2), and their interactions. Main effects were entered in the first step, followed by the interactions in the second step. The second step was marginally significant, (R^2 change = .06), $F(2, 84) = 2.90$, $p = .06$.

Computation of simple slopes (Fig. 3) revealed that participants with a narrow scope, as predicted, displayed correspondence between implicitly and explicitly measured self-attitudes, $b = .36(.11)$, $t(84) = 3.33$, $p < .01$. For participants with a broad scope, and those in the control condition, by contrast, these measures were not correlated, $b = -.03(.14)$, $t(84) = .20$, $p = .84$ and $b = .01(.17)$, $t(84) = .09$, $p = .93$, respectively. Finally, decomposition of the interaction into the two dummy-coded vectors revealed that the narrow scope condition differed from the broad scope condition, $b = .38(.18)$, $t(84) = 2.15$, $p < .05$. The broad scope condition did not differ from the control condition, $b = .04(.22)$, $t(84) = .18$, $p = .86$. In sum, participants with a narrow conceptual scope displayed greater correspondence between implicit and explicit self-attitudes than those with a broad scope, who did not differ from participants in the control condition.

General discussion

These studies demonstrate a unique factor that influences correspondence between implicit and explicit measures of attitudes: breadth of conceptual attention. Across studies, a constricted scope of conceptual attention, as compared to a broadened scope, narrowed the separation between implicitly and explicitly measured attitudes.

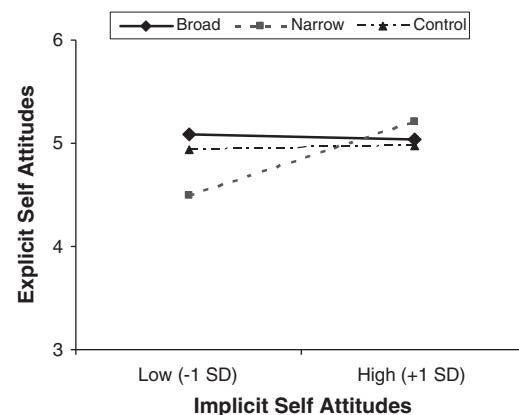


Fig. 3. Explicit self attitudes as a function of conceptual scope (broad vs. narrow vs. control) and implicit self attitudes (Experiment 3).

Demonstrating their robustness and generality, these results were obtained for two different implicit measures, two attitude objects, and two manipulations of the scope of conceptual attention.

The effects of shifts in conceptual scope on correspondence between implicit and explicit measures of attitudes have been explained throughout as resulting from processes of information integration. Specifically, a widened scope of conceptual attention facilitated access to cognitive material with lower *a priori* accessibility. Thus, when completing the explicit report, a collection of loosely related attitude-relevant information was in mind that all needs to be integrated into a coherent whole. As a result, the impact of activated attitudes, as measured by the implicit measure, on such reports was minimized. A narrowed scope of conceptual attention inhibited access to cognitive material with lower *a priori* accessibility. Thus, when completing the explicit report, only the most highly accessible attitude-relevant material (*i.e.*, the activated attitude) was in mind. As a result, the impact of activated attitudes on such explicit reports was maximized.

In future research, it would be important to more clearly demonstrate the various elements of the postulated information integration mechanism. For example, to examine the proposed mediating role of breadth of activated cognitive material, one might include an open-ended measure of the breadth of activated attitude-relevant material. In addition, it would be important to examine what activated attitude cues were integrated as information into the verbal attitude report when participants had a narrowed conceptual focus, and what accessible information replaced or out-weighted the cues resulting from activated attitudes when participants had a broadened conceptual focus.

In their classic review of the literature on attitude-behavior correspondence, Ajzen and Fishbein (1977) introduced the concept of specificity matching or the “principle of correspondence.” The idea here is that correspondence between attitudes and behavior should be maximized when the attitude and behavior measures are matched in content and specificity. Recently, this basic reasoning was applied to correspondence between implicit and explicit measures of attitudes (Hofmann, Gschwendner, Nosek & Schmitt, 2005). Implicit measures often offer little opportunity for elaboration of the more tangential qualities of an attitude object, and the stimuli used in such measures are often rather impoverished and can be quite specific. By contrast, explicit measures often allow for much greater elaboration of peripheral qualities of an attitude object, and the questions themselves are often rather rich in content and can be quite wide-ranging. One reason that implicit and explicit measures typically display low correspondence in the aggregate may be due to this mismatch in content and specificity between the measures (Hofmann, Gschwendner, Nosek & Schmitt, 2005). Consistent with this idea, when explicit measures are better matched in content and specificity with implicit measures, such as when explicit reports take the form of simple adjective rating scales, semantic differentials, or feelings thermometers, they show higher consistency with implicit measures (Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005).

Another way of thinking about the present results, then, is that, regardless of the concrete properties of the explicit report, a constricted conceptual scope creates a momentary match in content and specificity between the explicit and implicit measures of attitudes. More concretely, by limiting the mental concepts that come to mind, a narrow conceptual scope restricts people from thinking about the object in attitudinally irrelevant ways, and reduces the richness of the content contained in the questions. Thus, rather than carefully fine-tuning explicit measures to better match the implicit measure in specificity and content, all one needs to do to promote implicit-explicit correspondence is induce a narrowed conceptual scope.

Alternative accounts

Are these results merely an example of transfer-appropriate processing? That is, perhaps when completing the implicit measures,

participants have a narrow focus. Then, prior to completing the explicit measures, that focus is either reinforced or contradicted by the manipulation of conceptual focus. In this case, greater correspondence in the narrow focus condition may reflect the fact that participants in this condition have a similar focus when completing both the implicit and explicit measures. Meanwhile, the weaker correspondence in the broad focus condition may reflect the fact that participants in this condition have a different focus when completing the measures. This would create relatively more or less similarity in the activated mental contents when completing the two measures, and thus either enhance or undermine correspondence between them. Though plausible, this account seems unlikely given that a broadened perceptual and conceptual focus is usually dominant (Bruner, 1957; Fiske & Taylor, 1991; Navon, 1977, 1981; Navon & Norman, 1983; Pomerantz et al., 1977; Reicher, 1969). This suggests that, when completing the implicit measures, participants would have had a broad focus, rather than a narrow focus. Thus, if these results were a consequence of transfer-appropriate processing, one should have found greater implicit-explicit convergence for participants primed with a broadened conceptual than those primed with a narrowed focus. This was not the case.

Coda

Past research examining the consequences of shifts in conceptual attention has focused on outcomes such as creative cognition (e.g., Friedman & Förster, 2001; Friedman et al., 2003), assimilation and contrast in judgment (Förster et al., 2008), and a focus on similarities versus dissimilarities (Förster, 2009). The present research discovered that shifts in conceptual attention also regulate the interplay between implicitly and explicitly measured attitudes. A narrowed conceptual scope, as compared to a broadened scope and baseline levels, led people’s explicit reports to more faithfully reflect their activated attitudes. Just as a narrow scope of conceptual attention limits creative thinking more generally, these results suggest that a narrow conceptual scope limits the creativity with which people construct their considered evaluative judgments.

References

- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888–918.
- Anderson, N. H. (1981). *Foundation of information integration theory*. New York: Academic Press.
- Anderson, M. C., & Neely, J. H. (1996). Interference and inhibition in memory retrieval. In E. L. Bjork, & R. A. Bjork (Eds.), *Memory. Handbook of perception and cognition* (pp. 237–313). (2nd ed.). San Diego, CA: Academic Press.
- Anderson, M. C., & Spellman, B. A. (1995). On the status of inhibitory mechanisms in cognition: Memory retrieval as a model case. *Psychological Review*, 102, 68–100.
- Bruner, J. (1957). On perceptual readiness. *Psychological Review*, 64, 123–152.
- Cunningham, W. A., & Zelazo, P. D. (2007). Attitudes and evaluations: A social cognitive neuroscience perspective. *Trends in Cognitive Sciences*, 11, 97–104.
- Derryberry, D., & Tucker, D. M. (1994). Motivating the focus of attention. In P. M. Niedenthal, & S. Kitayama (Eds.), *The heart's eye: Emotional influences in perception and attention* (pp. 167–196). San Diego, California: Academic Press.
- Dunton, B. C., & Fazio, R. H. (1997). An individual difference measure of motivation to control prejudiced reactions. *Personality and Social Psychology Bulletin*, 23, 316–326.
- Fazio, R. H. (2007). Attitudes as object-evaluation associations of varying strength. *Social Cognition*, 25, 603–637.
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, 54, 297–327.
- Fazio, R. H., Sanbonmatsu, D. M., Powell, M. C., & Kardes, F. R. (1986). On the automatic activation of attitudes. *Journal of Personality and Social Psychology*, 50, 229–238.
- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition* (2nd ed.). New York: McGraw-Hill.
- Förster, J. (2009). Relations between perceptual and conceptual scope: How global versus local processing fits a focus on similarity versus dissimilarity. *Journal of Experimental Psychology. General*, 138, 88–111.
- Förster, J., Dannenbring, L. (2010). GLOMO sys: A systems account of global versus local processing. *Psychological Inquiry*, 21, 175–197.
- Förster, J., Friedman, R., Özelsel, A., & Denzler, M. (2006). Enactment of approach and avoidance behavior influences the scope of perceptual and conceptual attention. *Journal of Experimental Social Psychology*, 42, 133–146.

- Förster, J., Liberman, N., & Kuschel, S. (2008). The effect of global versus local processing styles on assimilation versus contrast in social judgment. *Journal of Personality and Social Psychology*, 94, 579–599.
- Friedman, R., Fishbach, A., Förster, J., & Werth, L. (2003). Attentional priming effects on creativity. *Creativity Research Journal*, 15, 277–286.
- Friedman, R., & Förster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality and Social Psychology*, 81, 1001–1013.
- Gawronski, B., & Bodenhausen, G. V. (2006). Associate and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin*, 132, 692–731.
- Gawronski, B., & Bodenhausen, G. V. (2011). The associative–propositional evaluation model: Theory, evidence, and open questions. *Advances in Experimental Social Psychology*, 44, 59–127.
- Greenwald, A. G., & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*, 79, 1022–1038.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. K. L. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology*, 74, 1464–1480.
- Greenwald, A. G., & Nosek, B. A. (2008). Attitudinal dissociation: What does it mean? In R. E. Petty, R. H. Fazio, & P. Briñol (Eds.), *Attitudes: Insights from the New Implicit Measures* (pp. 65–82). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, 85, 197–216.
- Hofmann, W., Gawronski, B., Gschwendner, T., Le, H., & Schmitt, M. (2005). A meta-analysis on the correlation between the Implicit Association Test and explicit self-report measures. *Personality and Social Psychology Bulletin*, 31, 1369–1385.
- Hofmann, W., Gschwendner, T., Nosek, B. A., & Schmitt, M. (2005). What moderates implicit–explicit consistency? *European Review of Social Psychology*, 16, 335–390.
- Hofmann, W., & Wilson, T. D. (2010). Consciousness, introspection, and the adaptive unconscious. In B. Gawronski, & B. K. Payne (Eds.), *Handbook of implicit social cognition: Measurement, theory, and applications* (pp. 197–215). New York: Guilford Press.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion*. New Haven: Yale University Press.
- Jordan, C. H., Whitfield, M., & Zeigler-Hill, V. (2007). Intuition and the correspondence between implicit and explicit self-esteem. *Journal of Personality and Social Psychology*, 93, 1067–1079.
- Koole, S. L., Dijksterhuis, A., & van Knippenberg, A. (2001). What's in a name: Implicit self-esteem. *Journal of Personality and Social Psychology*, 80, 614–627.
- LeBel, E. P., & Gawronski, B. (2009). How to find what's in a name: Scrutinizing the optimality of five scoring algorithms for the name-letter task. *European Journal of Personality*, 23, 85–106.
- Martindale, C. (1995). Creativity and connectionism. In S. M. Smith, T. B. Ward, & R. A. Finke (Eds.), *The creative cognition approach*. Cambridge, MA: MIT Press.
- Navon, D. (1977). Forest before trees: The precedence of global features in visual perception. *Cognitive Psychology*, 9, 353–383.
- Navon, D. (1981). Do attention and decision follow perception?: Comment on Miller. *Journal of Experimental Psychology. Human Perception and Performance*, 7, 1175–1181.
- Navon, D., & Norman, J. (1983). Does global precedence reality depend on visual angle? *Journal of Experimental Psychology. General*, 9, 955–965.
- Nosek, B. A. (2007). Implicit-explicit relations. *Current Directions in Psychological Science*, 16, 65–69.
- Nosek, B. A., Banaji, M. R., & Greenwald, A. G. (2002). Math = male, me = female, therefore math ≠ me. *Journal of Personality and Social Psychology*, 83, 44–59.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2005). Understanding and using the Implicit Association Test: II. Method variables and construct validity. *Personality and Social Psychology Bulletin*, 31, 166–180.
- Nuttin, J. M. (1985). Narcissism beyond Gestalt and awareness: The name letter effect. *European Journal of Social Psychology*, 15, 353–361.
- Payne, B. K., Cheng, C. M., Govorun, O., & Stewart, B. (2005). An inkblot for attitudes: Affect misattribution as implicit measurement. *Journal of Personality and Social Psychology*, 89, 277–293.
- Petty, R. E., Briñol, P., & DeMarree, K. G. (2007). The meta-cognitive model (MCM) of attitudes: Implications for attitude measurement, change, and strength. *Social Cognition*, 25, 657–686.
- Pomerantz, J. R., Sager, L. C., & Stover, R. J. (1977). Perception of wholes and of their component parts: Some configural superiority effects. *Journal of Experimental Psychology. Human Perception and Performance*, 3, 422–435.
- Ranganath, K. A., Smith, C. T., & Nosek, B. A. (2008). Distinguishing automatic and controlled components of attitudes from direct and indirect measurement. *Journal of Experimental Social Psychology*, 44, 386–396.
- Reicher, G. M. (1969). Perceptual recognition as a function of meaningfulness of stimulus material. *Journal of Experimental Psychology*, 81, 275–280.
- Rydell, R. J., & McConnell, A. R. (2006). Understanding implicit and explicit attitude change: A systems of reasoning analysis. *Journal of Personality and Social Psychology*, 91, 995–1008.
- Schooler, J. W. (2002). Verbalization produces a transfer inappropriate processing shift. *Applied Cognitive Psychology*, 16, 989–997.
- Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behavior. *Personality and Social Psychology Review*, 8, 220–247.
- Thurstone, L. L. (1928). Attitudes can be measured. *The American Journal of Sociology*, 33, 529–554.
- West, S. G., Aiken, L. S., & Krull, J. L. (1996). Experimental personality designs: Analyzing categorical by continuous variable interactions. *Journal of Personality*, 64, 1–48.
- Wilson, T. D., Lindsey, S., & Schooler, T. (2000). A model of dual attitudes. *Psychological Review*, 107, 101–126.