

The effect of Need for Cognition on the stability of prejudiced attitudes toward South American immigrants

Miguel A. M. Cárdbaba¹, Pablo Briñol², Javier Horcajo² and Richard E. Petty³
¹ Centro Universitario Villanueva, ² Universidad Autónoma de Madrid and ³ Ohio State University

Abstract

Background: The purpose of this study was to examine the role of thinking in reducing prejudice toward stigmatized groups. **Method:** Participants received a persuasive message composed of strong arguments in favor of South American immigrants or a control message. In order to distinguish high- from low-elaboration individuals, participants were asked to complete the Need for Cognition Scale (NC). **Results:** As expected, attitude change was equivalent for individuals with relatively high and low NC. Importantly, although both high- and low-NC participants showed a reduction in the extremity of prejudiced attitudes, the stability of these changes was different. Two days later, the changes produced in participants with high NC were found to be more persistent than equivalent changes produced in participants with low NC. **Conclusions:** An understanding of the processes through which prejudiced attitudes are modified can provide information about the long-term stability of such changes.

Keywords: prejudice, need for cognition, persuasion, attitudes.

Resumen

El efecto de la Necesidad de Cognición sobre la estabilidad de las actitudes hacia los inmigrantes sudamericanos. Antecedentes: el objetivo de este estudio era examinar el papel de la elaboración mental en la reducción del prejuicio hacia grupos estigmatizados. **Método:** la mitad de los participantes recibió un mensaje persuasivo compuesto por argumentos fuertes a favor de los inmigrantes sudamericanos en España. La otra mitad de participantes recibió un mensaje control. Con la finalidad de distinguir a los individuos con mayor o menor motivación para procesar la información recibida, los participantes completaron la escala de Necesidad de Cognición (NC). **Resultados:** el cambio de actitud hacia los inmigrantes sudamericanos fue equivalente para todos los participantes independientemente de su NC. Sin embargo, la estabilidad de ese cambio de actitudes varió en función de las diferencias individuales en NC. Dos días más tarde, los cambios producidos en las actitudes de los individuos que puntuaron alto en la escala de NC fueron más persistentes que aquellos cambios que tuvieron lugar en las actitudes de los individuos con bajas puntuaciones en NC. **Conclusiones:** considerar la cantidad de pensamiento implicada en las campañas de reducción de prejuicio puede resultar informativa de cara a sus efectos y consecuencias a largo plazo.

Palabras clave: prejuicio, necesidad de cognición, persuasión, actitudes.

The current research examines the importance of considering individual differences relevant to the basic processes underlying a reduction in prejudice toward stigmatized groups. In particular, we examine the stability associated with reducing prejudice in individuals who vary in their need for cognition. Need for cognition (NC, Cacioppo & Petty, 1982) refers to the tendency to engage in and enjoy effortful thought. Individuals high in NC tend to form attitudes on the basis of an effortful analysis of the quality of the relevant information in a persuasive message (i.e., high thinking processes), whereas people low in NC tend to be more reliant on simple peripheral cues (i.e., low thinking processes) in the persuasion context (see Cacioppo, Petty, Feinstein, & Jarvis, 1996; Petty, Briñol, Loersch, & McCaslin, 2009; for reviews).

Although persuasion can occur when thinking is high or low, the long-term consequences of high and low elaboration processes are different. Thus, we examined in this research the extent to which newly-changed attitudes of relatively high NC individuals are more persistent than the newly-changed attitudes of relatively low NC individuals.

Contemporary prejudice is thought to be more complex and expressed more subtly than traditional prejudice (Devine, 1989; Dovidio & Gaertner, 2004). Hence, traditional perspectives have been replaced by more contemporary approaches to prejudice such as subtle prejudice (Pettigrew & Meertens, 1995), aversive racism (Gaertner & Dovidio, 1986) and symbolic racism (Sears, 1988). In contrast to traditional prejudice, which is overt and blatant, these contemporary approaches conceptualize prejudice as a subtle, often unintentional, unaware, and even unconscious form of bias.

Based on this supposed subtle nature of prejudice (e.g., it can be held and expressed in unconscious ways), some scholars have considered that the best strategies for fighting it might also be subtle. Thus, recommended techniques aimed at reducing prejudice are often based on processes that imply little thinking.

For example, the contact hypothesis (Allport, 1954), one of the most well known strategies for reducing intergroup conflict, has been claimed to rely on processes requiring little information processing, such as *mere exposure* (Pettigrew & Tropp, 2006), *classical conditioning* (Dovidio, Gaertner, & Kawakami, 2003), *self-perception* (“if we do things together, I must like this person,” Bem, 1972), and use of *heuristics* (“if most other people do not seem prejudiced, it must be wrong,” Sechrist & Stangor, 2001). All of these psychological mechanisms provide plausible low effort processes by which prejudice reduction strategies (e.g., mere contact) might be effective in reducing prejudiced attitudes toward a stigmatized group.

Nonetheless, according to a variety of theories of persuasion, attitude change can not only be produced by low-thinking processes but also by deliberative thoughtful processes (Petty & Cacioppo, 1986). For example, in line with the earliest deliberative theories of message learning (Hovland, Janis, & Kelley, 1953), Pettigrew (1998) proposed that “learning about others” is a critical step in how intergroup contact improves intergroup relations (Allport, 1954). In accord with this view, there are numerous examples of how prejudice is reduced by attendance at diversity group seminars, and learning new information about other social groups (Fisher, 1968; Rudman, Ashmore, & Gary, 2001). Furthermore, consistent with the cognitive response theory of persuasion (Petty, Ostrom, & Brock, 1981), the self-generation of counter-stereotypical images and thoughts has proven to be another effective (thoughtful) method of prejudice reduction (Blair, Ma, & Lenton, 2001). Taken together, this body of evidence suggests that in addition to relatively low effort mechanisms such as classical conditioning and mere exposure, high thinking processes such as the self-generation of counter-stereotypical thoughts or dissonance processes are also capable of producing changes in prejudiced attitudes.

Prior research has shown that people vary in the extent to which they enjoy effortful thinking, and this variation predicts the likelihood that people will engage in relatively high or low thinking processes. For example, Need for Cognition (Cacioppo & Petty, 1982) has been used as a way to determine the mechanism by which individuals’ judgments would be formed or changed. Considerable research has suggested that low NC individuals are, absent some incentive to the contrary, more likely to rely on simple cues in a persuasion situation (Haugtvedt, Petty, & Cacioppo, 1984) and on stereotypes alone in judging other people (Carter, Hall, Careney, & Rosip, 2006) than are those high in NC. Those high in NC are more likely to consider all of the pertinent information. Thus, if cues and stereotypes have any impact on high NC individuals, it is more likely to be an indirect effect and occur by a mechanism that requires some cognitive effort (e.g., by biasing processing of the other information available; Petty, Schumann, Richman, & Strathman, 1993; Wegener, Clark, & Petty, 2006).

Notably, since individuals high (vs. low) in NC typically engage in more thinking, they also tend to have stronger attitudes (i.e., attitudes that are more accessible in memory, persistent over time, resistant to change, and influential in determining subsequent behavior and information-processing (Haugtvedt & Petty, 1992). Additionally, because individuals high (vs. low) in NC engage in more thinking, they tend to form stronger automatic associations among attitude objects, and to generalize their changes to other beliefs related to the attitude object (Petty et al., 2009).

For example, in one study, Haugtvedt and Petty (1992) provided individuals who were high and low in their NC with a persuasive

message about a new consumer product. Although both high and low NC individuals were persuaded equally by the ad (though via different processes), the attitudes of the high NC participants decayed less than the attitudes of low NC individuals over a 2-day period. This example suggests that the amount of thinking involved in the persuasion process is critical to an understanding of the further stability associated with the changes obtained. What remains to be examined is whether individual differences in NC are also associated with stability in the domain of prejudiced attitudes toward stigmatized groups.

Another relevant antecedent comes from research by Wegener, Clark and Petty (2006) who showed that group stereotypes can influence judgments about individuals in both thoughtful and non-thoughtful ways. Although all the participants in their studies relied upon stereotypes in making explicit judgments about target individuals, and the judgments appeared to be the same (i.e., they were equally extreme) across high and low elaboration conditions, the consequences of these stereotype-based judgments differed depending on the amount of processing of the target information presented. Specifically, judgments made under high elaboration conditions were found to be more resistant to change. This research suggests that differential consequences for resistance to change are associated with different attitude-change mechanisms depending on the amount of thinking (see also Clark, Wegener, Briñol, & Petty, 2009).

The purpose of the present study was to examine the role of thinking in reducing prejudice toward minority groups in both the short and the longer term. Specifically, this research examined whether prejudiced attitudes changed as a result of a high thinking process would be more stable than attitudes changed through low thinking processes, even when the initial change was apparently the same (i.e., the extremity of the attitude was identical for high and low thinking groups). Participants received a persuasive message composed of strong arguments in favor of South American immigrants or a group-irrelevant message composed of strong arguments in favor of introducing swipe cards at the university. We predicted that participants would show more favorable attitudes toward immigrants after reading the relevant than the control message. In addition, we did not expect individual differences in NC to moderate this pattern since people can change their attitudes through either high or low thinking processes. Since the message in favor of South American immigrants contained both strong arguments and positive cues, we expected no differences in attitude extremity for high and low elaboration participants immediately following receipt of the message. If changes in this specific domain of prejudice for those relatively high NC are proved to be more stable than changes of those with relatively low NC then the present research has the potential to make a contribution to both attitude change literature and the prejudice domain, and do so at the conceptual and practical level.

Since the consequences of high and low elaboration processes are different, we predicted that the newly-changed attitudes of high elaboration (NC) individuals would be more persistent than the newly-changed attitudes of low elaboration individuals. Persistence refers to the extent to which a newly-changed attitude endures over time even if it is never attacked directly, and persistence is commonly considered to be an important indicator of attitude strength (Petty & Cacioppo, 1986; Petty & Krosnick, 1995).

Method

Participants

Seventy-six undergraduates (48 women and 28 men) (mean age: 20.1; $SD= 2.37$) from the Universidad Complutense de Madrid (UCM) were assigned to the conditions of a 2 (Message vs. Control) \times Extent of elaboration (Need for Cognition: continuous measured variables) design. None of the participants was South American.

Procedure

Upon arrival, participants read a persuasive message in favor of South American immigrants or an irrelevant message about introducing swipe cards at the university. Then, the participants were asked to complete a questionnaire designed to assess their attitudes about South American immigrants. Two days after initial exposure to the persuasive message, subjects returned to the same laboratory to express again their beliefs about the immigrants. Thus, participants' attitudes toward South American immigrants were assessed both immediately following receipt of the message (Time 1) and two days later (Time 2). Finally, participants were debriefed and dismissed. None of the participants reported to know the hypothesis behind the research.

Instruments

Persuasive message. Participants were randomly assigned to the persuasive message condition or to the control message condition. In the persuasive message condition, participants were asked to read a positive persuasive message about South American immigrants. The persuasive message was constructed to contain both strong arguments and positive peripheral cues, so that both relatively high and low NC individuals' attitudes could change. The message in favor of South American immigrants contained seven strong arguments about the benefits of receiving immigrants in Spain. The arguments selected were pre-tested and shown to produce mostly favorable thoughts. Of course, individuals with relatively low NC were not expected to engage in much thinking about the message in the study when not specifically instructed to do so.

The gist of one of the strong arguments was that South American immigrants help to stimulate the national economy because of their crucial role in the industrial infrastructure. In addition to a set of compelling arguments, the immigrant-relevant persuasive message also contained other information that could serve as a cue for identifying the direction and credibility of the proposal. For example, the information was claimed to be taken from prestigious sources with high credibility (e.g., *Wall Street Journal*, prestigious sociologists). The positive direction of the message was also evident from the title of the message (The Benefits of Immigration), which could work as an important cue for participants to be able to infer the position advocated even without thinking about the merits of the arguments. In the control message condition, participants read an immigrant-irrelevant, positive message about the benefits of introducing swipe cards.

Extent of elaboration. Participants completed the Spanish version of the 18-item version of the NC scale (Falces, Briñol, Sierra, Becerra, & Alier, 2001). The Spanish version of the scale has psychometric properties similar to those of the original scale,

including a single-factor structure (Petty, DeMarree, Briñol, Horcajo, & Strathman, 2008; for additional examples of the use of Spanish version of the scale, see, Briñol et al., 2005; Briñol et al., 2007). This scale includes statements such as "I like to have the responsibility of handling a situation that requires a lot of thinking" or "Thinking is not my idea of fun" (reverse-scored). Participants responded to each statement on a five-point scale anchored at "extremely uncharacteristic of me" and "extremely characteristic of me." Responses to each item were averaged to form a composite NC score ($\alpha= .80$). Scores on the scale ranged from 2.5 to 4.5, with a median of 3.5; ($M= 3.51, SD= .49$). Scores were not affected by the message manipulation (Mean of NC for the pro-immigrant message group= 3.514, $SD= .48$; Mean for the control message group= 3.519, $SD= .51$) $F_s < 1$. Finally, the overall correlation between NC scores and prejudiced attitudes following the persuasive message (Time1) was not significant, $r= .19, p= .113$.

Prejudiced attitudes following the persuasive message. Participants' attitudes toward immigrants were assessed by averaging the responses to four highly related ($\alpha= .91$) nine-point scales (i.e., unappealing vs. appealing, unpleasant vs. pleasant, not unlikeable vs. likeable, I do not like them vs. I do like them). Although in Spain, attitudes toward South American immigrants tend to be positive in absolute terms (i.e., on the positive side of a scale), these attitudes were assumed to be less favorable than those toward the dominant (majority) group (Spaniards). Given that whether an attitude is prejudiced or not is a relative (rather than an absolute) question, such evaluations can be considered prejudiced toward immigrants. To verify our assumption of prejudice toward South American immigrants in Spain, we collected data from the current subject population by randomly assigning a sample of 158 students to indicate how much they liked either Spaniards or South-Americans on scales ranging from 1 (not at all) to 9 (extremely). Consistent with the idea that evaluations of immigrants are less favorable than those toward natives, participant's evaluations toward the out-group (South American immigrants) were significantly less positive ($M= 5.7, SD= 1.09$) than participant's evaluations of the in-group (Spaniards) ($M= 6.23, SD= .93$), $t(152)= 3.27, p= .001$. That is, even though attitudes toward a South American immigrant were on the positive side of the scale, attitudes were still less favorable than those toward the dominant (majority) group. Furthermore, these evaluations were significantly correlated ($r= .58, p= .01$) with behavioral intentions toward these groups (composite measure of items such as "Would you be willing to hire people from this group?"). These findings suggest that the measures used in this research can have real world implications for potential discrimination.

Prejudiced attitudes after two days (persistence). In order to assess the extent to which a newly-changed attitude endures over time, participants returned to the laboratory two days after initial exposure to the pro-immigrant message to once again express their attitudes toward South American immigrants. The delayed measure of attitude toward South American immigrants was assessed by averaging the responses to the same four closely related ($\alpha= .90$) nine-point differential scales used previously.

Data analysis

All dependent measures were submitted to a multiple regression analysis, with Persuasive Message (Message vs. Control; dummy coded), and Extent of Elaboration (NC; continuous variable) as

the independent variables. Analyses followed the regression procedures outlined by Aiken and West (1991).

Prejudiced Attitudes (Time 1). As expected, the results of a Persuasive Message \times Extent of Elaboration regression analysis at Time 1 revealed only a significant main effect of the Persuasive Message, $\beta = .50$, $t(69) = 3.08$, $p = .003$. This main effect indicated that participants' attitudes were more favorable toward immigrants after reading the pro-immigrant persuasive message ($M = 6.07$, $SD = 1.47$) than after reading the neutral control message about benefits of introducing swipe cards at the university ($M = 5.03$, $SD = 1.19$). Moreover, the main effect of NC, $\beta = .27$, $t(69) = 1.71$, $p = .09$, and the two-way interaction, $\beta = .04$, $t(68) = .27$, $p = .79$, were not significant.

Prejudiced Attitudes (Time 2). Attitudes assessed after two days were analyzed as a stability measure. Given that there were no differences other than the message effect on initial attitudes, we included those attitudes at Time 1 as a covariate in the multiple regression analysis. As one might expect, attitudes at Time 1 significantly predicted attitudes at Time 2, $\beta = .57$, $t(55) = 7.00$, $p < .001$. Most importantly, the analysis of the second evaluation (48 hours later) revealed a significant interaction between Persuasive Message and NC on this measure, $\beta = .33$, $t(54) = 3.15$, $p = .003$.

To examine the basis of this interaction, the interaction was decomposed by using the re-centering procedure advocated by Aiken and West (1991). When this interaction was broken down into relatively high (analyzed at +1 SD) or low (analyzed at -1 SD) NC individuals, there was a significant effect of message among high NC participants, $\beta = .49$, $t(54) = 3.40$, $p = .001$, but not among low NC individuals, $\beta = -.17$, $t(54) = -1.07$, $p = .29$. Furthermore, the predicted interaction revealed that as the scores on NC increased, attitudes tended to increase for the pro-immigrant message $\beta = .40$, $t(36) = 3.67$, $p = .001$, but not for the control message ($p = .12$). This difference in delayed attitudes as a function of NC in the relevant message condition is notable given that the initial attitudes in response to the proposal were identical irrespective of NC.

Discussion

The results of this study revealed that attitude change was equivalent for relatively high and low NC individuals immediately after receiving the persuasive message. This makes sense since the treatment included sufficient information for change regardless of the amount of thinking. That is, the persuasive message was made up of compelling arguments, but also of simple, positive cues. Most importantly, this study also revealed that the effects of a persuasive appeal on prejudiced attitudes were more evident after a delay of two days for relatively high (vs. low) NC participants. This pattern of results would be consistent with prior research on persuasion suggesting that attitude strength can be affected by elaboration (Petty & Krosnick, 1995).

The degree of stability of participants' attitudes toward immigrants is an important feature to consider, since the goal of most prejudice-reduction interventions is to create attitudes that will be persistent and impactful. Although the persistence of participants' attitudes can be highly informative of their future behavior, it is also essential to assess other features of attitude strength, such as accessibility, prediction of behavior, and resistance to counter-attitudinal information (Cárdbaba, Briñol, Horcajo, & Petty, 2012).

An important matter for future research is the exploration of whether prejudicial attitudes might show some additional properties associated with strength when changed through high

elaboration processes. For example, we noted earlier that attitude change processes which require thinking deeply about the attitude object are likely to result in attitude representations that are well integrated and connected with other relevant material in memory (McGuire, 1981; Tesser, 1978). Because of the strong linkage among constructs associated with high thinking, activating one mental representation should activate related cognitive elements easily. Indeed, within the literature on attitudes toward persuasive proposals there is evidence that it is easier to activate related constructs for individuals with high NC than it is for those with low NC (Petty et al., 2008). An important question to examine would concern the extent to which this argument holds for attitudes regarding stigmatized groups. The implication might be that programs (requiring high thinking) for reducing prejudice toward one particular stigmatized group might also be helpful in making people more egalitarian with regard to other groups. In other words, future work should examine whether changes through deliberative processes in one specific domain of prejudice can show evidence of generalization to different groups, other than the one targeted by the persuasive treatment.

Furthermore, future research should examine whether manipulating (rather than measuring) the extent of thinking about a pro-immigrant message would produce similar effects. Indeed, one limitation of the present study is that provides correlational evidence for our critical hypothesis, and differences in NC might be overlap with differences in other constructs. For example, an alternative interpretation might be that participants high in NC could express more desirable responses than those low in NC. In that case, those with high (vs. low) NC might think that the experimenter wanted them to report more stability and had more need to fulfill those expectations. Although plausible, this alternative does not seem likely to apply to the present data since previous research has found no correlation between NC and social desirability (Petty, Briñol, Loersch, & McCaslin, 2009). Likewise, in our study participants who scored relatively high in NC were not more likely to express suspicions about the experimental hypothesis than participants with relatively low NC. In any case, future research needs to measure and manipulate the amount of thinking with constructs other than the one used in this particular study (NC).

Furthermore, as noted, although attitudes toward the discriminated group (South American immigrants) are more negative in relative terms than attitudes toward the in-group (Spaniards), these attitudes tend to be mostly positive in absolute terms. It would be important for future research to examine the role of need for cognition in reducing prejudice toward groups for which attitudes are negative not only in relative but also in absolute terms. Furthermore, given the subtle nature of modern prejudice and the potential social desirability concerns, future research can also benefit from including additional measures, such as automatic evaluations, and measures of ambivalence and discriminatory behavior (e.g., Maio, Haddock, Watt, & Hewstone, 2009).

Finally, the studies described in this research, apart from their implications for reducing prejudiced attitudes, might also provide some potential insights for assessing hidden effects of interventions and egalitarian programs. For example, recent research in the domain of persuasion has shown that when people appear to have resisted persuasion on traditional measures, there may be some potentially important, yet previously hidden, persuasive effects on the confidence with which people hold those apparently unaffected

attitudes (Tormala & Petty, 2002; Rucker & Petty, 2004; Rucker, Petty, & Briñol, 2008). It is plausible to imagine that under some circumstances, although participants were not influenced by persuasive messages on attitudinal measures (e.g., as a result of demand characteristics, evaluation apprehension, impression management, social desirability or self-awareness limitations), strength measures might still be affected (Tormala, Briñol, & Petty, 2004). The present research suggests that such hidden changes in the domain of prejudiced attitudes are more likely to occur under high (rather than low) thinking conditions. This finding is also

consistent with research showing that although explicit measures might not reveal any change after a persuasive treatment based on “thoughtful” approaches, the automatic evaluative associations that exist with respect to the attitude object may indeed indicate change (Petty et al., 2009). Thus, researchers interested in studying prejudice, and prejudice reduction in particular, might sometimes be able to use perceptions of change (and other strength-related measures) as attitude researchers have used attitude confidence (and automatic evaluations) as a way of indicating that a message has had some hidden persuasive effect.

References

- Aiken, L.S., & West, S.G. (1991). Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage.
- Allport, G.W. (1954). *The nature of prejudice*. Cambridge, MA: Addison-Wesley.
- Bem, D.J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6, pp. 1-62). New York: Academic Press.
- Blair, I.V., Ma, J.E., & Lenton, A.P. (2001). Imagining stereotypes away: The moderation of implicit stereotypes through mental imagery. *Journal of Personality and Social Psychology, 81*, 828-841.
- Briñol, P., Becerra, A., Díaz, D., Horcajo, J., Valle, C., & Gallardo, I. (2005). El efecto de la necesidad de cognición sobre la influencia interpersonal. *Psicothema, 17*, 666-671.
- Briñol, P., Horcajo, J., Díaz, D., Valle, C., Becerra, A., & De Miguel, J. (2007). El efecto de la formación sobre la influencia interpersonal. *Psicothema, 19*, 401-405.
- Cacioppo, J.T., & Petty, R.E. (1982). The need for cognition. *Journal of Personality and Social Psychology, 42*, 116-131.
- Cacioppo, J.T., Petty, R.E., Feinstein, J., & Jarvis, W.B.G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin, 119*, 197-253.
- Cárdaba, M.A., Briñol, P., Horcajo, J., & Petty, R.E. (2012). Changing prejudiced attitudes by thinking about persuasive messages: Implication for resistance. *Unpublished manuscript*. Universidad Autónoma de Madrid, Spain.
- Carter, J.D., Hall, J.A., Carney, D.R., & Rosip, J.C. (2006). Individual differences in the acceptance of stereotyping. *Journal of Research in Personality, 40*, 1103-1118.
- Clark, J.K., Wegener, D.T., Briñol, P., & Petty, R.E. (2009). Discovering that the shoe fits: The self-validating role of stereotypes. *Psychological Science, 20*, 846-852.
- Devine, P.G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology, 56*, 5-18.
- Dovidio, J.F., & Gaertner, S.L. (2004). Aversive racism. In M.P. Zanna (Ed.), *Advances in experimental and social psychology* (Vol. 36, pp. 1-51). San Diego, CA: Academic Press.
- Dovidio, J.F., Gaertner, S.L., & Kawakami, K. (2003). Intergroup contact: The past and the future. *Group Processes and Intergroup Relations, 6*, 5-21.
- Falces, C., Briñol, P., Sierra, B., Becerra, A., & Alier, E. (2001). Validación de la escala de Necesidad de Cognición y aplicación al estudio del cambio de actitudes. *Psicothema, 13*, 647-653.
- Fisher, F.L. (1968). Influences of reading and discussion on the attitudes of fifth graders toward American Indians. *Journal of Educational Research, 62*, 130-134.
- Gaertner, S.L., & Dovidio, J.F. (1986). The aversive form of racism. In J.F. Dovidio & S.L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 61-68). Orlando, FL: Academic Press.
- Haugtvedt, C.P., & Petty, R.E. (1992). Personality and persuasion: Need for cognition moderates the persistence and resistance of attitude changes. *Journal of Personality and Social Psychology, 63*, 308-319.
- Haugtvedt, C.P., Petty, R.E., & Cacioppo, J.T. (1992). Need for Cognition and advertising: Understanding the role of personality variables in consumer Behavior. *Journal of Consumer Behavior, 3*, 239-260.
- Hovland, C.I., Janis, I., & Kelley, H.H. (1953). *Communication and persuasion*. New Haven, CT: Yale University Press.
- Maio, G.R., Haddock, G., Watt, S.E., & Hewstone, M. (2009). Implicit measures and applied contexts: An illustrative examination of anti-racism advertising. In R.E. Petty, R.H. Fazio & P. Briñol (Eds.), *Attitudes: Insights from the new wave of implicit measures* (pp. 327-357). New York: Psychology Press.
- McGuire, W.J. (1981). The probabilistic model of cognitive structure and attitude change. In R.E. Petty, T.M. Ostrom & C. Brock (Eds.), *Cognitive responses in persuasion* (pp. 291-307). Hillsdale, NJ: Erlbaum.
- Pettigrew, T.F. (1998). Intergroup contact theory. *Annual Review of Psychology, 49*, 65-85.
- Pettigrew, T.F., & Meertens, R.W. (1995). Subtle and blatant prejudice in Western Europe. *European Journal of Social Psychology, 25*, 57-75.
- Pettigrew, T.F., & Tropp, L.R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751-783.
- Petty, R.E., Briñol, P., Loersch, C., & McCaslin, M.J. (2009). The need for cognition. In M.R. Leary & R.H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 318-329). New York: Guilford Press.
- Petty, R.E., & Cacioppo, J.T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer Verlag.
- Petty, R.E., DeMarree, K.G., Briñol, P., Horcajo, J., & Strathman, A.J. (2008). Need for cognition can magnify or attenuate priming effects in social judgment. *Personality and Social Psychology Bulletin, 34*, 900-912.
- Petty, R.E., & Krosnick, J.A. (1995). *Attitude strength: Antecedents and consequences*. Mahwah, NJ: Erlbaum.
- Petty, R.E., Ostrom, T.M., & Brock, T.C. (1981). *Cognitive responses in persuasion*. Hillsdale, NJ: Erlbaum.
- Petty, R.E., Schumann, D.W., Richman, S.A., & Strathman, A.J. (1993). Positive mood and persuasion: Different roles for affect under high and low elaboration conditions. *Journal of Personality and Social Psychology, 64*, 5-20.
- Rucker, D.D., & Petty, R.E. (2004). When resistance is futile: Consequences of failed counterarguing for attitude certainty. *Journal of Personality and Social Psychology, 86*, 219-235.
- Rucker, D.D., Petty, R.E., & Briñol, P. (2008). What's in a frame anyway? A meta-cognitive analysis of the impact of one versus two sided message framing on attitude certainty. *Journal of Consumer Psychology, 18*, 137-149.
- Rudman, L.A., Ashmore, R.D., & Gary, M.L. (2001). “Unlearning” automatic biases: The malleability of implicit prejudice and stereotypes. *Journal of Personality and Social Psychology, 81*, 856-868.
- Sears, D.O. (1988). Symbolic racism. In P.A. Katz & D.A. Taylor (Eds.), *Eliminating racism: Profiles in controversy* (pp. 53-84). New York: Plenum Press.
- Sechrist, G.B., & Stangor, C. (2001). Perceived consensus influences intergroup behavior and stereotype accessibility. *Journal of Personality and Social Psychology, 80*, 645-654.

- Tesser, A. (1978). Self-generated attitude change. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 11, pp. 289-338). San Diego: Academic Press.
- Tormala, Z.L., & Petty, R.E. (2002). What doesn't kill me makes me stronger: The effects of resisting persuasion on attitude certainty. *Journal of Personality and Social Psychology*, 83, 1298-1313.
- Tormala, Z.L., Briñol, P., & Petty, R.E. (2004). Hidden effects of persuasion. *Advances in Consumer Research*, 31, 75-76.
- Wegener, D.T., Clark, J.K., & Petty, R.E. (2006). No all stereotyping is created equal: Differential consequences of thoughtful versus nonthoughtful stereotyping. *Journal of Personality and Social Psychology*, 90, 42-59.