International Journal of Research Studies in Science, Engineering and Technology
Volume 4, Issue 9, 2017, PP 22-26
ISSN : 2349-476X

A Review of the Theoretical Models of Stereotypes

Ai-hua Tao, Xin Chen

Xinglin College, Nantong University Jiangshu Nantong, 226007, China.

***Corresponding Author:** Ai-hua Tao, Xinglin College, Nantong University Jiangshu Nantong, China.*

ABSTRACT

Stereotypes are one of the important research objects of social psychology. Since the 1930s, the study of stereotypes has gone through a lengthy process of defining its concepts and evaluating the stereotypes of different groups, to the process of cognitive processes, and to the current cognitive neuroscience research. In addition, researchers put forward different theoretical models around the formation, maintenance and mechanism of stereotypes. Among them, the representative theoretical models include content model, abstract prototype model and schema filter model. It is of great significance to study the theoretical model of stereotype to make a more scientific explanation of the results of behavioral experiments in order to clarify the arguments of the existing theoretical models.

Keywords: *stereotypes; content model; stereotype representation; schema filter model*

INTRODUCTION

In 1922 Lippmann proposed the concept of stereotype to explain social perception and the formation of impressions. Stereotypes began to become one of the most notable research focuses in the field of social psychology. Stereotypes refer to people's knowledge, perceptions, and expected "cognitive structures" of a particular social group's psychology (Hamilton & Trolier, 1896). Stereotypes are generally stored in long-term human memory and are promptly activated for use in accomplishing current cognitive-related tasks (Stangor, 2009). Numerous studies show that due to the limited time and cognitive resources available to human beings, people always activate and use stereotypes related to the current perceptual object in order to promote their social cognitive tasks such as the completion of judgments and the formation of an impression of others Brewer, 1988; Fiske & Neuberg, 1990; Macrae & Bodenhausen, 2000; Macrae & Bodenhausen, 2001).

As an important component of the cognitive system, stereotypes greatly enhance the speed and efficiency of perception, reasoning and decision making on the one hand. On the other hand, when wrongly applied, stereotypes tend to breed unfavorable social phenomena such as injustice, misunderstanding and criminal activities. At the same time, the over-generalization of stereotypes can also lead to various social cognitive biases. In spite of this, the environment still causes each of us unconsciously to become involved in stereotypes and to promote or suppress the processing of cognitive information related to them (Wang Pei, Chen Xuefeng, 2003).

After 80 years of long exploration, researchers have done a great deal of research on stereotypes. The study of early stereotypes started in the 1930s mainly focused on the definition of stereotypes and the assessment of the stereotypes of different groups. From the early 1970s onward, the study of stereotyped impression turned to cognitive processing. At the same time Research perspective is not limited to the perspective of the code of consciousness, but more to start cognitive neuroscience research.

THE CONCEPT OF STEREOTYPE

Researchers at home and abroad have defined the concept of stereotyped from different perspectives. Among them, the representative definition of foreign countries holds that "stereotypes refer to cognitive representations of the thoughts, facts and visions associated with a social group, for example, we undoubtedly have groups such as gender, nationality, Race, status, political parties, groups and even family stereotypes (Hamilton & Sherman, 1994). " Most domestic scholars define from the perspective of social cognition theory that stereotype is a kind of abstract knowledge structure which connects a series of traits of a certain social group and its behavior

characteristics or a group of characteristics, attributes and behaviors of a specific group Concept and so on. Despite the different perspectives of research, the definition of stereotype can be summarized as a conceptual structure of people's common attributes shared by a particular social category.

STEREOTYPES OF THE THEORETICAL MODEL

After more than 80 years of exploration, researchers have conducted extensive and in-depth studies on the formation, maintenance and mechanism of stereotypes and proposed representative theoretical models from different perspectives. The theoretical model of stereotypes mainly focuses on three aspects: (1) the content of stereotypes, including the construction of stereotypes and the prediction of the behavior of different groups. (2) The characterization of stereotypes mainly includes how the automated processing and controlled machining restrict each other, and how to influence the production and suppression of stereotypes and the stereotyped deviation in the memory. (3) The effectiveness of stereotypes, including how stereotypes affect all aspects of social processing, such as attention distribution, behavioral interpretation, inference and decision making, information retrieval, and information classification。

Content Model of Stereotype

Stereotype Content Model (SCM)

The specific content of the stereotype, that is, the main characteristics of the target group usually varies with the evaluator, the object of evaluation and the evaluation time and evaluation context. In recent years, people have proposed the structural dimensions of different stereotypes. The most representative one is the stereotyped content model proposed by Fiske (2002) and others.

SCM believes that stereotypes are rooted in the pervasive social phenomenon of human populations: for their own benefit and survival, people unconsciously show the intent of identifying other groups as friends or enemies and whether they pose a threat to themselves, That passion and ability of both. At the same time, because of the competition among groups and the difference of group status in the complex society, people's evaluation of the groups and groups they belong to will show some fixed bias in the stereotype of enthusiasm and ability. In addition, the SCM proposes four interrelated basic assumptions (Fiske, Cuddy, Glick, & Xu, 2002): two-dimensional structure hypothesis: the enthusiasm and ability to determine the distribution of outer groups; mixed evaluation hypothesis: most of the stereotypes are mixed ; Social status hypothesis: the social status of the group can predict the stereotypes; group preference hypothesis: stereotypes prevail in the reference group preferences and outsiders derogatory.

Behaviors from Intergroup Affect and Stereotypes Map (BIAS Map)

The system model combines SCM with group emotion and behavioral reactions, highlights the dimension of morality and pioneers the intergroup emotion-stereotype-behavioral tendency system model (Cuddy, Fiske, & Glick, 2007). The proposed system model is an extension of the model of stereotyped content, and the combination of the two can further promote the integration of the research between groups and groups within the stereotype.

BIAS Map, as an extended model of SCM, incorporates the emotional and behavioral consequences of interaction between enthusiasm and competence dimensions. Among them, the behavioral responses triggered by the level of abilities and enthusiasm include active facilitation, active harm, passive facilitation and passive harm.

The Characterization Model of Stereotype

Prototype Model

Abstract prototypes are based on abstract notions of stimuli as processes grouped by comparison with the prototype of the group, which activate and allow the perceiver to deduce the characteristics of the target by group membership and distort the succession of subsequent stereotypes Information processing. At the same time, stereotypes are about abstraction and generalization of social groups, while people pay less attention to the role of group members' personal or sample knowledge. That is to say, stereotypes are characterized in memory by abstract prototypes.

In this abstract view, once information about a group is obtained, a generalized concept of the group develops. This information can be obtained from a range of sources, including first-hand experience with a group and social learning through other sources. The more people members of a certain group encounter and the

more opportunities for social learning through other sources of information, the more abstract the group representation that makes sense for such information is formed and stored. Many psychology terms point to these abstract representations, such as schemas, prototypes, or knowledge structures. From this perspective, stereotypes summarize the abstract cognitive representation of group knowledge in a generalized form, that is, an abstract prototype.

Exemplar Model

Examples refer to specific examples of social reality, including typical examples, atypical examples and counter-examples. The sample theory assumes that categories consist of a set of examples, and that the classification of new examples is based on its similarity to these stored examples (Han, Morley, 2000). According to the concept of sample, the classification of the same kind of things is not a single, general characterization, but a set of sample representations. When classifying a new example, it may use any one of the representations, depending on which one the representation is based on and the similarity of which representation.

There are two important assumptions about the sample theory. First, the similarity between the new example and the sample representation is a multiplicative function of their feature similarity. Second, the classification is determined by comparing the similarities of the new examples with the sample representations of the various categories stored in the brain, and then classifying it as the one with the greatest similarity. Therefore, the sample theory emphasizes that the specific examples recovered from memory are of importance in determining the perception of other people or groups by the perceivers, that is, the stereotypes are characterized in memory as concrete examples. The theory does not advocate abstract, reasoning-based representation, but rather that knowledge is stored directly in the form of examples in the process of judgment formation. The recovery and use of examples often do not need to be extracted and generalized under the state of consciousness Judgment is based solely on the recovered sample.

Mixed Model

Because pure abstract prototyping and sample models have some shortcomings, many researchers adopt a compromise attitude and advocate that an effective and reasonable judgment process must include such prototypes as abstract concepts and specific examples of groups, The characterization unit of a stereotype in memory has both abstract prototypes and concrete examples. There is also a problem with such a hybrid model. One of the obvious issues is that it must be decided that the conditions that led to the processing of a sample base or abstract base are relative.

Connection Model

Connectionism is a relatively new theoretical competitor, and a large number of stereotyped connectionist models begin to emerge (Kashima, Woolcock, & King, 1998; Queller & Smith, 2002; Smith & DeCoster, 1998; Van Rooy, Van Overwalle, Vanhoomissen, Labiousc, & French, 2003). The connectionist view holds that stereotypes are characterized by a dynamic activation model that arises from a network of simple and consistent nodes. Each node is either actively or negatively activated by an adjacent node in accordance with their relative coupling significance. Because all information is characterized on the same network by different types of activations, connectiveism is hierarchical or distributed (Van Rooy et al., 2003). Since the information learned through such a network is not stored, it can not be extracted. It must rebuild from the perspective of linking weights to react to the input activation clues.

Although this e-learning is maintained with a tie-weight, this re-structuring is influenced by real-time scenarios because both immediate scenarios and previous learning are represented on the same network at the same time. It is clear that the dynamic nature of connective representations is inconsistent with the notion of an abstract category about the stability of stereotypes within individuals.

Situated Simulation Theory

Barsalou (1999, 2003) argues that concepts are not the same in nature as we would normally expect. He explains in situational theory that "conceptual representations are modal rather than non-modal, and perceptions and concepts have the same When the conceptual system characterizes the visual features of an object, it uses the representation in the visual system; when the conceptual system characterizes the actions imposed on an object, it uses the motion representation" (Barsalou, 2003). The difference with the standard view is that the concept is not stable, according to the individual's current

goals and the situation is different from situation to situation changes. Situational simulation theory shows that people do not characterize categories simply and in isolation, and context and other information are also related to the concepts and categories to be characterized.

So far, the above theoretical models are still at the level of controversial researchers, failing to reach a consensus on the characterization units of stereotypes in memory.

The Effect Model of Stereotype

Psychologists agree that stereotypes have the effect of promoting cognitive processing and saving cognitive resources. But there are also disagreements. Some researchers regard people as "cognitive miser", people use stereotypes to avoid deliberate thinking, while others propose a more constructive point of view that people will think The cognitive resources saved using stereotypes are actively used for other concurrent activities. This difference is manifested in different theoretical models.

Schematic Filter Model

The Schema Filter Model believes that stereotyping simplifies the processing of information by acting as a filter, providing a filtered mental schema to help understand consistency information while filtering out inconsistency information. The basic filter model has two variants - the "weak filter model" and the "strong filter model." The Weak Filter Model argues that stereotypes function as concept filters, providing "concept fluency" to consistent information and promoting understanding of consistent information, whereas inconsistent information is difficult to understand. The "strong filter model" is more extreme. It regards stereotyping as a note-taking filter. It focuses and focuses on consistent information, leaving it completely detached and ignoring inconsistent information.

Associative Network Model

The Lenovo network model holds that all information is stored in the form of "semantic networks." A "semantic network" is made up of "nodes" and "links," whose upper end represents the "target node" of a person or a group, and the lower end is a "situational node" that represents a specific activity. Because the consistency information is easy to understand, it only establishes the connection between the "scenario node" and the "target node" when processing it. When encountering the inconsistency information, it also needs to establish the relationship between "scenario node" and "scenario node" , So that it can be processed more elaborately to address the difference between it and expectation, inconsistent information will be processed more fully than consistent information, but people will not be able to resolve inconsistencies when cognitive resources are scarce The disagreement of sexual information and expectation, on the contrary, the processing of conformity information is better than the processing of inconsistent information.

Flexible Coding Model

Still other researchers think stereotypes promote flexible coding of information. First, under the conditions of low cognitive resources, stereotypes provide conceptual fluidity for consistency information and facilitate the understanding of its meaning, thus saving a large amount of cognitive resources for the processing of inconsistent information. The stereotype will prompt people to devote more attention to inconsistent information.

Second, the model also argues that, on the one hand, stereotypes promote the understanding of the meaning of coherency information so that it does not have to carefully process its surface perceptual characteristics so that stereotypes inhibit the encoding of conformant information concepts while at the same time Perceptual coding. On the other hand, since observers do not have a corresponding schema to help explain inconsistent information, processing is mainly material-driven and, at this time, more attention is assigned to inconsistent information, so inconsistent information Perceptual coding will be facilitated.

RESEARCH PROSPECT

A Unified Characterization Model of Stereotypes

Judging from the development of stereotype representation theory, there is not a unified and widely accepted theoretical model. The main reason is that different theories merely capture one aspect of the problem of stereotypical mental representation. Whether abstract stereotypes, sample models or mixed models of stereotypes, they simply explain how stereotypes are stored and how they think about a group and how the intended knowledge structure is stored in memory. However, compared with these theories, the theoretical viewpoints of connectionism's representation

and situation simulation are to explain the intermediate state of this process from the dynamic perspective of stereotyped cognitive processing - the mechanism of stereotype activation. Theory is to solve two aspects of the same problem, so there is not a single theory of mental representation about stereotype integration of these two aspects. Therefore, researchers are also required to continue their efforts toward the goal for a long time in the future.

Applying Magnetic Resonance Imaging to Study Stereotypes

Although there are many studies using ERPs to explore the mechanism of activation and cognitive processing of stereotypes, however, there is still no definite conclusion about the special EEG components related to stereotypes. Some studies suggest that N400 is a sign of the activation of stereotypes, but not exactly. Future research will further reveal the use of magnetic resonance imaging (fMRI) with high spatial resolution to characterize stereotypes.

ACKNOWLEDGMENTS

This research was supported by Project (MS22016012) from Nantong Science and Technology Program “Generation and Resolution of Doctor - patient Conflict Based on Intergroup Emotion Theory” , Project (201613993015X) from Jiangsu Province Student Innovation Training Program “The Influence of Self - information and Probability on Gender Stereotype” and Project (2016SJD190015) from Philosophy and Social Science Research Project of Jiangsu Universities "Emotional Intelligence Differences between Cortisol Response and Creative Thinking under Stress". (Xinglin College, Nantong Uni.),

REFERENCES

[1] Han, M., & Mo, r. (2000). Prototype and Sample Concept in Classification Research. Psychology exploration, 20(74): 12-16.(in Chinese)

[2] Wang, P., Chen, X. F. (2003).Conscious inhibition of stereotypes. Acta Psychologica Sinica, 35(3), 358-361. (in Chinese)

[3] Brewer, M. B. (1988). A dual process model of impression formation. In T. Srull & R. Wyer (Eds.), Advances in Social Cognition (pp. 1-36). Hillsdale, NJ: Lawrence Erlbaum.

[4] Cuddy, A. J. C., Fiske S. T., & Glick, P. (2007). The BIAS Map:Behaviors from intergroup affect and stereotypes. Journal of Personality and Social Psychology, 92, 631–648.

[5] Fiske, S.T., & Neuberg, S. L. (1990).A continuum model of impression formation, from category-based to individuating processes: Influence of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), Advances in Experimental Social Psychology (p. 1-74). New York: Academic Press.

[6] Fiske, S. T., Cuddy, A. J. C., Glick, P. S., & Xu, J. (2002). Amodel of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status. Journal of Personality and Social Psychology, 82,878–902.

[7] Hamilton D L, Trolier T K. Stereotypes and stereotyping: An overview of the cognitive approach. In: Dovidio J F, Gaertner, S L ed. Prejudice, discrimination and racism. Orlando, FL: Academic Press, 1986. 127-163

[8] Hamilton, D. L., & Sherman, J. W. (1994). Stereotypes. In J. R. S. Wyer & T. K. Srull (Eds.), Handbook of social cognition (2nd ed., Vol. 2, pp. 1-68). Hillsdale, NJ: Erlbaum.

[9] Kashinta. Y, Woolcock, &King. D(1998). The dynamics of group impression fornmation: The censor product model of exemplar-based social category learning. In S. Y. Rcad&l. C. Miller (Eds.), Connectionist models of social reasoning and .social behavior (pp. 71-110).

[10] Macrae, C. N., & Bodenhausen, G. V.(2000). Social cognition: Thinking categorically about others. Annual Review of Psychology, 51, 93-120.

[11] Macrae, C. N., & Bodenhausen, G. V. (2001). Social cognition: Categorical person perception. British Journal of Psychology, 92(1), 239-255.

[12] Queller, S.& Smith, E. (2002). Subtyping versus bookkeeping in stereotype learning and change: Connectionist simulations and empirical findings. Journal of Personality and Social Psychology, 82, 300-313

[13] Smith. F. R & De Coster. J. (1998) Knowledge acquisition, accessibility, and use in person and stereotyping: Simulation with a recurrent connectionist network .Journal of Personality and Social Psychology. 74.21-35

[14] Van Rooy,D. Van Overwalle. F, Vanhoomissen. T, Labiousc. C, & French. R. (2003). A recurrent connectionist model of group biases. Psychological Review 3, 536-563;

Citation: *T. Ai-hua and C. Xin, "A Review of the Theoretical Models of Stereotypes", International Journal of Research Studies in Science, Engineering and Technology, vol. 4, no. 9, pp. 22-26, 2017.*