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### THE FACILITATIVE EFFECT OF EVALUATIVE FIT ON SOCIAL CATEGORIZATION

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#### ABSTRACT

*Normative fit (the consistency between stimulus persons' features and perceivers stored stereotypes or group-based expectations) is known to facilitate social categorization. The present study expands upon earlier findings by showing that this effect extends to situations in which normative fit is based on generalized evaluation (i.e. evaluative fit). We presented 80 White participants with stimuli in which an equal number Black and White targets were disproportionately linked to stereotype irrelevant good and bad behaviors. In one condition, Black targets performed a disproportionate number of negative behaviors while White targets performed a disproportionate number of positive behaviors. In another condition, these proportions were reversed. Using the category confusion paradigm (Taylor, Fiske, Etcoff, and Ruderman, 1978), we found greater evidence of categorization use in the former condition than the latter condition. The use of this technique as an implicit measure is discussed.*

What determines whether a person is viewed as a group member or as a unique individual? While the consequences of social categorization have been widely studied (for example with respect to stereotyping, collective behavior, inter-group bias, [see Turner, 1987, for an overview]), the antecedents of social categorization have received comparatively less attention. Perhaps the most frequently cited factor said to facilitate social categorization is limited cognitive capacity (Coats and Smith, 2006; Gilbert and Hixon, 1991; Macrea, Milne and Bodenhausen, 1994). Since social categorization is often portrayed as providing a schema by which to organize and guide information processing, the need for such a mechanism is presumably most pressing when perceivers cannot devote the cognitive resources necessary to perceive social targets as unique individuals.

In contrast to this resource-based explanation, self categorization theorists (Oakes and Turner, 1990) maintain that social categorization results not from limited cognitive resources, but rather from a concerted effort to make sense of the social world. They see social categorization as largely a function of *category fit*. *Comparative fit* refers to the extent to which the attributes and actions of the stimulus persons covary with their category membership. This type of fit has frequently been manipulated experimentally. For example, Oakes, Turner, and Haslam (1991, Experiment 1) manipulated comparative fit by presenting male and female stimulus person in such a way that male stimulus persons shared a specific attitude to a gender irrelevant issue while female stimulus persons shared a different attitude to this issue. In this study, categorization based on sex was more pronounced when fit was high than when attitudes were distributed randomly across categories.

A second facet of category fit that is likewise thought to facilitate social categorization is *normative fit*. This is defined as the degree to which features of the stimulus persons are perceived to be consistent with stored stereotypes or normative expectations. Normative fit thus reflects the match between stimulus persons' characteristics and the perceiver's stereotype or expectations about the social category. For example, normative fit of the gender category would be strong when female targets discuss cooking and male targets discuss sports. Consistent with this position, a number of studies have found normative fit to increase activation and subsequent reliance on the corresponding category. For instance, Oakes, Turner and Haslam (1991 Experiment 2) presented six stimulus persons (three art and three science students) expressing either a stereotypical arts attitude (pro social life) or a stereotypical science attitude (pro hard work). In the normative fit condition, the art students advocated a pro social life position while the science students expressed a pro hard work attitude. In another condition, the attitude positions were reversed. The results of the study showed greater categorization based on sex in the former, normative fit, condition. In another study, Blanz and Aufderheide (1999) found the category "subject of study" to be more salient among participants presented with stimuli in which psychology students expressed pro alternative medicine statements and medical students expressed anti alternative medicine statements (the normative condition) compared to participants exposed to the opposite configuration.

The paradigm that has been used most widely to assess social categorization is the category confusion task (otherwise known as the "who said what" task) developed by Taylor and colleagues (Taylor, Fiske, Etcoff, and Ruderman, 1978). This paradigm involves showing participants a stimulus video or computer presentation featuring behavioral descriptions or

statements made by members from two different social categories (e.g., sex or race). Afterwards, participants are instructed to assign each behavior or statement to the person who had performed the behavior or expressed the statement. Incorrect responses are then coded as either within-category errors (i.e., where the target-description match is wrong but the target chosen is a member of the same category as the correct target) or between-category errors (i.e. where the target-description match is wrong and the target chosen is from the other category). A higher proportion of within-category errors relative to between-category errors provides evidence that the social categorization was salient and used to organize information about the stimulus persons. Blanz and Aufderheide (1999) and Biernat and Vaescio (1993) used this measure of social categorization in their studies showing the facilitative effect of normative fit. We use this method in the present study.

Previously published studies examining the effect of normative fit on social categorization have all done so by varying information about stimuli members with respect to specific stereotypic characteristics or, more typically, with respect to stereotypic positions on a particular issue (e.g., members of one category express pro social attitudes and members of the other category express pro hard work attitudes). In addition, these characteristics or attitudes have tended to be relatively neutral in value. In the present study, we broaden the manipulation of normative fit to reflect global evaluation. Rather than performing a behavior or expressing a position reflecting a stereotypic characteristic or attitude, the stimulus persons in the current study perform a wide spectrum of positive and negative behaviors that are stereotype irrelevant (i.e., not a part of the stereotype of either target category). The only semantic commonality among the behaviors is valence. By using only stereotype irrelevant behaviors that vary in valence, we are able to examine whether the effect of normative fit on social categorization extends beyond specific expectations to reflect more generalized beliefs about the target categories. Doing so requires only that the social categories we use differ with respect to perceivers' perceptions about the tendency of members to engage in positive and negative behaviors. We refer to this special form of normative fit as *evaluative* fit.

In addition to investigating whether evaluative fit facilitates social categorization use, our study suggests a new way to examine prejudice and stereotypes. Thus far, the primary focus of studies examining the relationship between normative fit and social categorization has been to demonstrate that normative fit is, in fact, an antecedent to social categorization (this is why studies have featured attributes that are known to be stereotypic of target categories). Once the stereotypic nature of the attributes are established (typically through pretesting), stimuli are configured to be either high or low in normative fit and then category salience is measured. We intend to reverse this analysis by suggesting that evidence of social categorization may be used to identify stereotypes or normative expectations people hold about given group. An illustration may be helpful. Imagine a study in which the stimuli are configured so that in one condition behaviors reflecting one characteristic (e.g., violent) are linked disproportionately to members one category (e.g., Muslims) and behaviors reflecting the opposite (e.g., peaceful) are linked disproportionately to members of another category (e.g., Christians). In a second condition the stimuli configuration is reversed. Higher rates of categorization in the former condition than the latter would suggest that perceivers view the former configuration as more normative than the latter (i.e., that Muslims are more violent than Christians). In this way, we may use evidence of social categorization to identify the stereotypes or the normative expectations perceivers hold

about a group. The advantage of this technique over direct paper and pencil measures is that it allows one to assess prejudice and stereotypes that people may not readily admit to on explicit measures (Sigall and Page, 1971). In the current study, we limit our focus to that of generalized prejudice (as the primary goal of the study is to examine whether evaluative fit facilitates categorization use) but we note here that the same process could be used to examine particular stereotypes (as is illustrated in the above example).

## **Overview**

In the present study, we expand upon the concept of normative fit by examining whether evaluative fit facilitates social categorization use and in so doing suggest a new strategy with which to identify prejudice. In the current study we specifically examine racial prejudice (i.e., evaluative expectations based on race). Participants are exposed to stimuli in which an equal number Black and White targets are disproportionately linked to good and bad behaviors. In one condition, a disproportionate number of negative behaviors are performed by Black targets (eight negative compared to four positive) and in the other condition, a disproportionate number of negative behaviors are performed by White targets (eight negative compared to four positive). Based on a large body of research confirming the continued existence of racial prejudice (Greenwald, McGhee, and Schwartz, 1998; Hamilton and Sherman, 1994), we expect to find categorization (as indicated by a disproportionate number of within-category errors in the category confusion paradigm) to be most prominent in the condition in which Black targets are disproportionately paired with negative behaviors.

## **METHOD**

### **Pretest**

The objective of the pretest was to obtain a pool of statements that described moderately favorable and moderately unfavorable behaviors that were also irrelevant to the stereotypes of African Americans and European Americans. Twenty-six students enrolled in an introductory psychology course (12 males) participated in the pretest. They were asked to rate a large list of behaviors in terms of their desirability on a 10-point scale. These behavioral statements were constrained to be approximately the same in length. Statements describing behaviors deemed to be moderately favorable (e.g. "donated a pint of blood during the last campus blood drive") or moderately unfavorable (e.g., "yelled at the waitress when she brought the wrong order") were identified. The behavioral statements were then screened for stereotypicality in the following manner. Ten undergraduate assistants anonymously evaluated the behaviors. Any behavior that was selected by more than one assistant to be stereotypic of either Blacks or Whites was eliminated (e.g., the behavior "defaced a large rock with spray paint in a public park" was deemed stereotypic of Blacks and thus was excluded from our pool of statements). The mean favorability rating was 3.7 for the twelve unfavorable behavioral statements and 7.1 for the twelve favorable statements.

## **Participants**

Eighty Southeastern Louisiana University students (40 males) participated in the main study in exchange for partial fulfillment of an introductory psychology course requirement. Equal numbers of participants were assigned to the "Unfavorable Black /Favorable White" (UF Black /F White) and the "Unfavorable White /Favorable Black" (UF White/F Black) conditions. Participants were randomly assigned to conditions with the restriction that an equal number of males and females fell in each of the two conditions. All participants self-identified as White.

## **Stimuli and Materials**

Photographs of six Black male and six White male college students were used as the targets. Each photograph showed the upper torso of the individual standing in front of a building. Two copies of each of the original photographs were made, resulting in a set of 24 photographs. Each photograph was matched with one of the aforementioned behavioral statements. Favorability condition was manipulated by varying the ratios of favorable to unfavorable behavioral statements matched to the photographs as a function of racial category membership. In the UF Black/F White condition, two-thirds (8) of the Black photographs were paired with unfavorable behaviors; while, one-third (4) were paired with favorable behaviors. Proportions were reversed for White targets such that two-thirds (8) of White photographs were paired with favorable behaviors, and one-third (4) with unfavorable behaviors. In the UF White/F Black condition these ratios were reversed (two-thirds of the White photographs were paired with behaviors that were unfavorable, one-third favorable; and one-third of Black photographs were paired with favorable behaviors, two-thirds unfavorable).

The set of 24 photographs were arranged into a single random order, subject to the constraint that each target person appeared once in the first 12 photos, and once in the second 12 photos. For each participant, the 24 behavioral statements were randomly sampled without replacement from the pool of statements with the constraint that the ratio of favorable to unfavorable behavioral statements per racial category conform to that which is described above. For example, in the UF Black/F White condition, eight unfavorable behavioral statements were randomly paired with eight photographs of African Americans and four favorable statements were randomly paired with four photographs of African Americans.

## **Procedure**

Participants were run in groups ranging in size from two to four. Each participant was seated in a separate cubicle in front of a personal computer. The instructions were displayed on a computer monitor. Participants were informed that they would be presented with information about members of a group and that their job was to attend to information presented and that they would be asked questions about the presentation later. Participants were further informed that they would view a series of slides each containing a photograph of a group member together with a behavior performed by that person. Then they watched a succession of 24 photograph-behavioral statement frames. Each photograph was displayed in the center of the screen. The height and width of the targets pictures were 3 in. and 2 in., respectively. The behavioral statement written

below the targets photograph appeared in large (22 point) type font. Each frame was displayed for 8 s, with an interstimulus interval of .5 s.

After they viewed all 24 photograph-behavioral statement pairs, participants completed a 5 minute intervening task (drawing a map of campus) to reduce recency effects. In the subsequent test phase, the 24 statements presented during the computer presentation were presented to participants one by one, along with photographs of the 12 targets located in three rows of four pictures each. Participants were instructed to select the photograph of the individual who had been matched with that behavioral description during the computer presentation. Participants were instructed to guess the matches that they could not remember.

Participants were then asked to respond to a number of additional items. First, participants were asked to rate the group they had learned about earlier in terms of cooperativeness and capableness on a scale from 1 (not at all) to 7 (very much). Next, they were asked to rate how similar they believed European-Americans were to one another and how similar they believed African-Americans were to one another on a 7-point scale ranging from 1 (very dissimilar) to 7 (very similar). These two later questions were counterbalanced. Upon completion of the questionnaire, participants were thanked and debriefed.

## **RESULTS**

### **Categorization Index**

For each incorrect assignment the type of error was assessed. Two different types of error were possible. Within-category errors occur when the participant incorrectly attributes a behavior to a member of the same racial group as the one who supposedly performed the behavior. Between-category errors occur when the participant incorrectly attributes a behavior to a member of the other racial group. The sums of each type of error across the 24 assignment were calculated for each participant. Since the number of within-category errors expected by chance is 1/6 lower than the number of between-category errors, the latter errors were corrected by multiplying with 5/6. Participant sex, when included as a between-subject factor in the analyses below, was not associated with any statistically significant effects. Hence, the reporting of our results do not include this variable.

### **Categorization by Race**

A difference score was then calculated by subtracting the (corrected) number of between-category errors from the number of within-category errors. A greater relative number of within-category errors would result in a difference score significantly larger than zero and would indicate that participants relied on race to organize the stimulus information. This pattern was confirmed,  $t(79) = 8.32, p < .001$  ( $M = 3.98$ ) and clearly supports the expectation that within-category errors ( $M = 6.64$ ) occurred more frequency than between-category errors ( $M = 2.66$ ).

### **Effect of Perceived Evaluative Fit on Categorization by Race**

Our primary interest was to examine whether this difference in error type would be greater for those in the UF Black/F White condition than in the UF White /F Black condition. However, we also wanted to examine possible differences in categorization based on race of the target since studies have frequently found greater categorization of out-group members (e.g., Coats and Smith, 1999; Judd and Park, 1988; Wilder, 1990). We therefore computed two separate difference scores for each participant, one reflecting difference in error type for statements that were linked to Black targets and one reflecting difference in error type for statements that were linked to White targets. A 2 (favorability condition: UF Black/F White vs. UF White /F Black) X 2 (target category: difference score featuring Black targets vs. difference score featuring White targets) ANOVA, with repeated measures on the second factor was computed. As expected, the main effect of favorability condition was significant,  $F(1, 78) = 4.31, p < .05$  indicating greater discrepancy between within and between category errors in the UF Black/F White condition ( $M = 4.95$ ) than in the UF White /F Black condition ( $M = 3.01$ ). Neither the main effect of target category,  $F(1, 78) = 2.51, ns$ , nor the interaction,  $F(1, 78) = 1.81, ns$ , was significant. While the discrepancy in error type was significantly greater in the UF Black/F White condition than the UF White/F Black condition, simple effect t-tests show the error difference score was significant for both the UF Black/F White condition,  $t(39) = 5.9, p < .001$  and for the UF White/F Black condition,  $t(39) = 7.26, p < .001$ .

### **Individual Differences in the Tendency to Categorize and Ratings**

Lastly, a series of correlations were computed to examine whether individual differences in the tendency to make more within-category than between-category errors were associated with participants' ratings of group cooperativeness, group capability, similarity of African Americans in general, and similarity of European Americans in general. When data from the two conditions were examined together, neither the overall error difference score, nor either of the separate scores created separately for each target race correlated significantly with any of the ratings. However, when we analyzed the data of the participants in the UF Black/F White condition separately, several significant correlations emerged. There were significant positive correlations between the overall error difference index and ratings of similarity of African Americans,  $r(38) = .34, p < .05$  and between the error difference index for black targets only and ratings of similarity of African Americans,  $r(38) = .36, p < .05$ .

## **DISCUSSION**

As expected, the attribution error data indicate that participants used race to process information about the target persons. Participants made significantly more within-category errors than between-category errors. This finding is consistent with that of most other studies that used race as basis of categorization in the category confusion paradigm (e.g., Biernat and Vescio, 1993; Frible and Bem, 1985; Hewstone, Hantazi, and Johnston, 1991; Taylor et al., 1978). The primary purpose of our study was to test the hypothesis that social categorization use would be most prominent under conditions of evaluative fit. The results were as expected. When Blacks performed primarily negative behaviors and Whites performed primarily positive behaviors, categorization use based on race was relatively high. In contrast, when Whites performed

primarily negative behaviors and Blacks performed primarily positive behaviors, categorization use based on race was relatively low. This finding demonstrates that the effect of normative fit on social categorization extends beyond situations involving specific characteristics that are bound tightly to a social category. The behaviors were normative only to the extent that they fit the overall evaluation of the two categories. Also note that the behaviors used in the study were only moderately positive and negative and behavior type was far from perfectly correlated with group membership. That the effect of normative fit on categorization use occurred under these circumstances suggests detection of normative fit is quite sensitive and is responsive to distinctions based on very generalized evaluation. Future research should examine whether evaluative fit facilitates the use of social categorization with other kinds of social categories. Race tends to be a chronically accessible category, one for which evaluative assessment may be particularly ingrained. One limitation of the study is that it enlisted only white participants. Undoubtedly, participant race is a relevant variable in this study. Future research on this topic would benefit from including a more diverse subject pool. Doing so may not only provide greater insights into the effect of evaluative fit on social categorization, it may also further validate the error measure as an individual measure of prejudice.

In the introduction, we argued that evidence of social categorization use may serve as a way to identify the stereotypes or the normative expectations perceivers hold about a group. This study serves as a preliminary example. The finding of greater categorization use in the Unfavorable Black/Favorable White condition indicates bias on the part of our participants. Apparently our European participants considered relatively negative behaviors to be more "fitting" of African Americans and relatively positive behaviors to be more "fitting" of European Americans. This finding is consistent with a wide body of research showing high rates of racial prejudice among European Americans on implicit measures (e.g., Dovidio, Kawakami, Johnson, Johnson and Howard, 1997; Fazio, Jackson, Dunton and Williams, 1995; Greenwald, McGhee and Schwartz, 1998). In addition, we found individual differences in the tendency to rely on racial categories when Blacks were portrayed negatively correlated with a tendency to rate African Americans in general as being similar to one another. This provides some evidence that individual differences in the tendency to use categorization in situations of normative fit may represent a useful measure at the individual level. Such a claim at this point, however, is primarily speculative. Future research should examine the usefulness of this individual measure by examining how it relates to a variety of other explicit, implicit, and behavioral measures of prejudice. We suggest only that the current data indicates that future research into this topic is may be beneficial, and note that individual differences in the tendency to make disproportionate number within-category errors has been associated with measures of prejudice and stereotype endorsement in several previous studies (Frale, and Bem, 1985; Stangor, Lynch, Duan, and Glass, 1992; Walker and Antaki, 1986;). These other studies however, did not portray group members in stereotypic or unfavorable ways. We suggest an individual difference in the tendency to make predominately within-category errors in such situations may be particularly revealing, and may be a better indicator of prejudice or stereotype endorsement. Explicit measures of prejudice, however, may not be associated with this individual measure in cases where it is socially undesirable to express prejudice towards or stereotypes about the target group (Fazio and Olson, 2003). This may explain why our individual measure was unrelated to ratings of group cooperativeness and group capableness in this study. If future research does confirm the validity of this measure as an individual measure, it may prove useful. This technique has several advantages, for instance, it

provides a measure that is not contaminated by any social desirability factors that may occur when subjects are asked to explicitly judge targets (Sigall and Page, 1971). Moreover, participants are not asked to make any explicit judgments about the target nor in fact are they given any idea that the task concerns social categorization. This stands in contrast to several other implicit measures, such as the Implicit Association Test (Greenwald et al., 1998) which requires participants to categorize the stimulus persons in terms of their membership in the critical social categories, or to other implicit measures that are based on the manner by which people describe expectancy consistent versus expectancy inconsistent behaviors (von Hippel et al., 1995; Sekaquaptewa, Espinoza, Thompson, Vargas and von Hippel, 1997).

Throughout this paper, we purposefully referred to the error difference measure as representing category use rather than category activation. We do not claim that the greater difference in error-type among those in the UF Black/F White condition was necessarily due to differences in spontaneous activation of the racial categories. There is a great deal of evidence that race categories are chronically accessible to most everyone in America (e.g., Dovidio et al., 1997; Fazio et al., 1995; Greenwald, McGhee and Schwartz, 1998 ) and thus these categories were likely activated very early in presentation in both conditions. Instead, we argue that evaluative fit facilitated category use in the processing and retrieval of information about the stimulus persons. Those in the UF Black/F White condition were presented with information that was consistent with their expectations of Blacks and Whites, which in turn made the information easier to process and organize in terms of racial categories. In addition during the recognition phase, when participants could not remember who performed a given behavior, they could, with considerable confidence, rely on their category-based expectations to aid them in deciding who performed the behavior. In contrast, those in the UF White/F Black condition were presented with information that was inconsistent with their expectations of Blacks and Whites, which in turn made the information difficult to process and organize in terms of racial categories. During the recognition phase, in the absence of certainty, conflicting knowledge made reliance on the racial categories difficult due to the incompatibility between normative expectations and the manner by which behaviors covaried with category membership in the stimulus array.

Our findings provide support for the functional approach that emphasizes the role of fit in the use of social categories. However, our findings also illustrate an important point that we believe is at odds the functional perspective. We do not agree that social categorization necessarily "provide veridical perception because they are activated only when they fit reality" (Oakes et al., 1991, p. 142) nor do we believe that social categories "represent real world invariance and co-occurrence in just the same way as natural object do" (Oakes et al., 1991, p. 142). Social categories differ from natural ones in a variety of ways (see Flavell and Ross, 1981; Ostrom, 1984), most critically perhaps is that we have a vested interest in the content of our social categories and the manner by which we use them. We use social categories strategically to maintain our prejudices and to elevate the relative standing of our own groups. So while our findings do suggest that the perceived appropriateness of the categories is a critical predictor of social categorization usage, they also highlight just how biased such perceptions and processes tend to be.

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## **APPENDIX A: BEHAVIORAL STATEMENTS USED AS STIMULI IN THE CATEGORY CONFUSION TASK**

### **Unfavorable Behaviors**

Yelled at the waitress when she brought the wrong order.  
Haggled bitterly with his co-workers over the restaurant bill.  
Smoked in a no-smoking section even though others complained.  
Spread a nasty rumor about a fellow student to his classmates.  
Repeatedly bragged to everyone at work about his accomplishments  
Dented the fender of a parked car and didn't leave his name.  
Told his boss that a co-worker was to blame for an error he made.  
Refused to talk with his new roommate for no apparent reason.  
Ran off when someone picked a fight with his friend.  
Cut in line of three people waiting for theater tickets.  
Sent a series of harassing emails to a former girlfriend.  
Refused to forgive a good friend for a minor mistake.

### **Favorable Behaviors**

Drove an hour to meet and console a friend who was depressed.  
Gave a stranded motorist a lift to the service station.  
Held a welcoming party for some new neighbors.  
Confronted a man who was harassing a homeless person.  
Returned a wallet full of money to its rightful owner.  
Donated a pint of blood during the last campus blood drive.  
Worked hard to finish an assignment before a deadline.  
Gave credit for his success on the project to his classmate.  
Received the most valuable player award on the baseball team.  
Told several funny stories that got everyone really laughing.  
Worked two jobs over the summer to help support his family.  
Volunteered to stay late on a Friday night to help a coworker.

**APPENDIX B: DESCRIPTIVE STATISTICS AND CORRELATIONS**

**Table 1. Means and Standard Deviations of Dependent Measures and Intercorrelations Among these Variables Collapsed Across Favorability Condition (n = 80)**

Variables	Error index all targets	Error index Black targets	Error index White targets	Similarity Rating Blacks	Similarity Rating Whites
Error index Black targets	.84**	---			
Error index White targets	.85**	.43**	---		
Similarity Rating Blacks	.18	.20	.11	---	
Similarity Rating Whites	.09	.08	.07	.61**	---
M	3.98	2.23	1.75	4.60	4.18
SD	4.28	2.47	2.59	1.54	1.19

\* p < .05 \*\* p < .01

Note. The error index is the number of within-category errors minus the number of between-category errors.

**Table 2. Means and Standard Deviations of Dependent Measures and Intercorrelations Among these Variables in the UF Black /F White Condition Only (n = 40)**

Variables	Error index all targets	Error index Black targets	Error index White targets	Similarity Rating Blacks	Similarity Rating Whites
Error index Black targets	.87**	---			
Error index White targets	.89**	.54**	---		
Similarity Rating Blacks	.34*	.36*	.24	---	
Similarity Rating Whites	.06	.08	.03	.53**	---
M	4.95	2.52	2.44	4.82	4.41
SD	5.32	2.90	3.16	1.48	1.16

\* p < .05 \*\* p < .01

Note. The error index is the number of within-category errors minus the number of between-category errors.

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