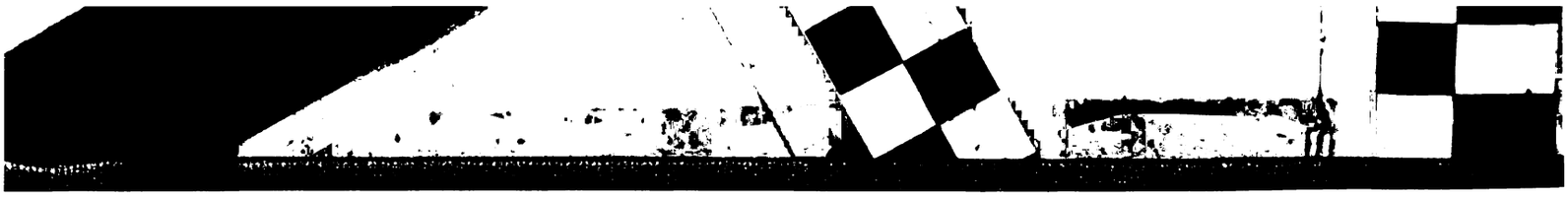

This is to certify that the

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THE LANGUAGE OF BIAS: THE EFFECT OF SOCIAL CATEGORIZATION ON THE LINGUISTIC INTERGROUP BIAS

By

Susan Elizabeth Harris

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ABSTRACT

THE LANGUAGE OF BIAS: THE EFFECT OF SOCIAL CATEGORIZATION ON THE LINGUISTIC INTERGROUP BIAS

By

Susan Elizabeth Harris

This study investigates the role of social identity theory and models of expectancy in explaining a linguistic intergroup bias. A minimal groups paradigm was used to create mere social categorization, and subjects were categorized into one of two groups. Subjects were given a level of linguistic abstraction task to assess linguistic biases, in which subjects had to choose a sentence that best described the behaviors of ingroup and outgroup members in a drawing. Subjects were then given a trait evaluation task, used to assess ingroup bias. It was concluded that mere social categorization is not sufficient to produce linguistic biases even when ingroup biases are present. The results indicate that social identity theory can not fully account for linguistic intergroup biases. The study strongly suggests that a stereotype-based expectancy model may provide the best explanation for linguistic intergroup biases.

This work is dedicated to my parents.

James Harris
(1920 - 1979)

Mary E. Harris

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People talk about the loneliness of the long distance runner, however many forget the loneliness of the thesis writer. In my long journey to this point in my career many people have made this trip a little less lonely. First, I would like to thank my advisor Norbert L. Kerr, for his unwavering commitment and guidance. I would also like to thank my thesis committee members, Joel Aronoff and Linda Jackson for their advice and suggestions.

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INTRODUCTION

Intergroup bias is a pervasive and well studied phenomenon (e.g. Brewer, 1979; Mullen, 1992 and Tajfel and Turner, 1986). However, only recently has language been seen as one possible reflection of intergroup bias (Maass, Salvi, Arcuri & Semin, 1989; Maass & Arcuri, 1992). This line of research has begun to study how the communication of behaviors and events differs according to the desirability of the behavior and group membership of the protagonist (Maass et al., 1989; Maass, 1992; Maass & Arcuri, 1992). This pattern of communication or description of behaviors has been called the linguistic intergroup bias. The observer describes the same behaviors differently depending on the group membership of the protagonist. The existence of a linguistic intergroup bias (LIB) has been demonstrated in settings as diverse as competitive sports (Maass et al., 1989); newspaper and television reports (Maass, 1992); and in lab settings between males and females (Maass & Arcuri, 1992). Some work has begun on identifying the underlying mechanisms of LIB (Maass, 1992; Maass & Arcuri, 1992). The findings from this work indicates that a general expectancies perspective provides the best explanation for LIB. However, alternative explanations provided by social identity theory (SIT) can not be overlooked.

Social identity theory holds that in intergroup situations people will attempt to find ways to make their own group more positively distinctive. According to social identity theory, this done so that people can maintain a positive sense of self. This view holds that one's self esteem is tied into one's various group identities. In order to protect and enhance one's self esteem, the groups that one belongs to are compared favorably to other

groups where one is not a member. This theory will be explored in more depth later in the paper.

The purpose of this study is to explore whether social identity processes contribute to the use of biased language in the absence of other processes. This is an attempt to clarify the underlying psychological mechanisms responsible for the LIB. It has been suggested that two primary processes may be guiding biased use of language in intergroup situations, social identity theory and general expectancies (Maass et al., 1989). This study proposes to investigate if social identity processes can produce the linguistic intergroup bias under conditions of mere social categorization.

Review of Literature

Linguistic Intergroup Bias

Few people would dispute the importance of language as a basis for communicating our beliefs, feelings and perceptions of the world. However, this basic vehicle of communications has not been explored a great deal as a means of investigating perceptual or intergroup biases in areas other than attribution. One instance in the literature that addresses language and attributionis implicit causality. Implicit causality research explores the typical attributions made with certain types of verbs. This line of research looks at the semantic features that define various classes of verbs. The research on implicit causality in verbs consistently shows that causal attributions people make can be identified by the verbs used in a simple subject - verb - object sentence (Au, 1986; Brown & Fish, 1983; Caramazza, Grober, Garvey & Yates, 1977; Semin and Fiedler, 1989; Fiedler, Semin and Koppetsch, 1991; Hoffman and Tchir, 1990). For example, in the sentence "Jim hit John"

the causality is typically ascribed to the subject - "Jim." However, in the sentence "Jim likes John" causality is typically ascribed to the object - "John." This line of research points to the importance of language in identifying social psychological phenomenon. That attributions are conveyed through these linguistic conventions leads to the possibility that other social psychological processes such as intergroup bias may also be reflected in language use.

Maass et al. (1989) have found that people differentially describe the behavior of others depending on the other's group membership. Maass and her colleagues tested members of horse racing teams from villages in northern Italy. The teams come together for a yearly competition. The members of the teams were shown a series of drawings depicting socially desirable and socially undesirable behaviors. The protagonists in the drawings were either wearing the colors of subject's team or the colors of a rival team. The subject's task was to pick one of four sentences that described the behavior of the protagonist in the drawing. The four sentences represented qualitatively different ways of describing the behavior of the protagonist. The sentences formed a continuum of descriptions from discrete actions to personal dispositions of the protagonist. They found that if the behavior is undesirable the ingroup member's behavior is described in terms of discrete actions, and the outgroup member's behavior is described in more dispositional terms. This pattern is reversed for those behaviors perceived to be desirable (Maass et al., 1989: Experiment 1). So if an ingroup member is observed hitting someone, a typical description may be "John hit Jim." However, an outgroup member's behavior would be described as "John is aggressive." In these examples the verb hit is a discrete action, or what is called a concrete term where concrete refers to being situationally specific, with a

clear beginning and end. The adjective aggressive is a dispositional term or what is called an abstract term, where abstract refers to being more descriptive of the actor, having no clear beginning or end, and is removed from the situation. This overall pattern of differential behavioral descriptions has been named the linguistic intergroup bias (LIB) by Maass et al. (1989). The concrete to abstract continuum refers to a system of categorizing interpersonal terms that share several semantic features. This category system is called the linguistic category model (Semin & Fiedler, 1988).

Linguistic Category Model

Semin and Fiedler (1988) have developed a four level linguistic category model (LCM) that distinguishes among descriptive interpersonal verbs and adjectives. The model of verbs and adjectives, forms a continuum from concrete terms to abstract terms. The model is composed of three levels of verbs and one level of adjectives, with adjectives representing the most abstract level. The most concrete level is the descriptive action verb (DAV), which refers to a specific action, where subject and object are situated in time and place. These verbs typically do not have a strong evaluative component in and of themselves. DAVs are also distinguished by having at least one physical invariant. A physical invariant refers to a connection with one of the five senses or some aspect of the body. So, for example in the sentence "Beth touched Mary" the verb touch refers to the sense of touch that is constant in the interaction between Beth and Mary described by the sentence. In the example, "Beth called Mary" the verb "called" suggests vocal acts, hearing or both in the course of the interaction that is described by the sentence.

The interpretive action verb (IAV), is the next level of the model. These verbs describe a more general class of behaviors, but retain the features of a specific action, where the subject and object are situated in time and place. IAVs allow for interpretation (as the name suggests) of the behavior beyond the specific interaction, and these interpretations may have an evaluative connotation. For example, "John helps Bob," where the action itself is performed in a specific time frame, and the consequences and antecedents of the action are open to speculation. IAVs have no physical invariant, as in the previous example, the verb "helps" does not refer to any of the five senses and is not bounded by a specific part of the body. Other examples of IAVs are: cheat, imitate, inhibit, harm, protect, support.

State verbs (SV), refer to more enduring states (e.g. mental, emotional, etc.) that are no longer situated in a specific time and place, but still has a specific subject and object. For example, "Tom loves Sally," implies an emotional state that is expected to last longer than the moment of observation and to last outside of the specific place in which the observation takes place. Other examples of SVs are envy, hate admire, etc. These interpersonal verbs share the semantic feature of having an evaluative connotation. State verbs such as detest, envy, dread all conjure of negative meanings, while esteem, like and love all connote positive meanings.

The final level, adjectives (ADJ) are the most abstract. ADJs are subject specific with no object, and refer to an enduring trait or quality of the person. ADJs are not temporally bounded, carry the most information about a specific person, and are removed from specific behaviors. It is argued that the more abstract the description, the more that behavior is perceived to be an enduring quality of the person, is more revealing about the

person (informative), and is not easy to verify (Fiedler & Semin, 1988; Maass, et al., 1989; Semin & Fiedler, 1988; Semin & Fiedler, 1991).

The linguistic category model has now been put to successful use in several studies. The LCM was used to see if there was a two stage process in person cognition (Fiedler, Semin & Bolten, 1989). In this study Fiedler, Semin and Bolten used the LCM to test the theory that rules of communication call for more abstract statements about people because abstract statements carry more information. They argue that the use of abstract descriptions would result in a top down processing bias in subsequent descriptions of the target person. In Experiment 1, they used a serial communication game in which a chain of three subjects were asked to describe four different social roles (i.e. male finance manager). The first subjects in the chain were given a list of 16 verb pairs that were antonyms. The lists were either pairs of IAVs or pairs of SVs. Subjects were to use whichever of the verbs that fit to form descriptions of the roles. Subject 1 would describe the specified roles and give them to subject 2. Subject 2 would then read the descriptions of subject 1, match them to the specific roles and then describe the roles again in his or her own words and pass them on to subject 3. Subject 3 would then write his or her descriptions and identify the roles. In their analyses they used only the descriptions from subjects 2 and 3 that were coded as DAVs or ADJs. They found that using descriptions of a more abstract nature than DAVs suppressed the use of DAVs in the subsequent descriptions of subjects 2 and 3 (Fiedler, Semin and Bolten, 1989: Experiment 1).

The LCM has also been used to test the attributive inferences of actors and observers (Semin & Fiedler, 1989). This study was designed to test the hypothesis that actors and observers would describe social behaviors at different levels of the linguistic

category model. Specifically, observers should use more abstract descriptions (ADJs) than actors. Subjects had to describe the behavior of either their own or someone else's behavior in ten specified social situations. As expected, subjects who described the behavior of others (observer condition) used significantly more abstract terms than subjects who described their own behavior (Semin & Fiedler, 1989: Experiment 1). This study casts the actor-observer bias in linguistic terms and suggests that the bias may be unconsciously conveyed through language. Hence the LCM provides an elegant, unobtrusive measure of intergroup bias as well as some social cognitive processes.

Linguistic Intergroup Bias - Revisited

Maass, et al. (1989) reported the findings from a set of experiments that showed that people differentially describe the behavior of ingroup and outgroup members. Specifically, desirable ingroup behavior and undesirable outgroup behavior was described using the more abstract levels of the LCM (state verbs and adjectives), while undesirable ingroup behavior and desirable outgroup behavior was described using the concrete levels of the LCM (descriptive action verbs and interpretive action verbs). They termed this pattern of description the linguistic intergroup bias (LIB).

A second experiment in the Maass et al. (1989) package used a free choice format for describing the behavior of ingroup and outgroup members. Judges familiar with the LCM, were used to code subject's responses. In this experiment the pattern of differential description held true, but only for outgroup behaviors, such that desirable outgroup behaviors were described with concrete levels of the LCM, and undesirable behaviors were

described with abstract levels of the LCM. Ingroup behaviors were described with abstract levels of the LCM for both desirable and undesirable behaviors. In, fact a slightly higher mean trend was found for undesirable ingroup behaviors. It was concluded that the LIB is perhaps stronger for outgroup behaviors than for ingroup under these free choice conditions.

Several other experiments have been conducted to test the LIB, unfortunately none of them has been published yet. Many of the experiments were summarized in a chapter by Maass and Arcuri (1992) and in a paper presented by Maass (1992). This body of work is summarized below and the current scope and limitations of the LIB are laid out.

In a series of studies, the existence of the LIB was found in the mass media (reported in Maass, 1992). One such study looked at the reports of two Italian newspapers when the Italian National soccer team played. It was believed that by looking at unfavorable comments versus favorable comments made about the teams, that differential descriptions would emerge. Such that favorable comments would employ abstract terms, and unfavorable comments would employ concrete terms for the ingroup. The reverse pattern was predicted for comments concerning the opposing team. Judges trained in recognizing the levels of the LCM coded several articles on the soccer team's games. The results showed the predicted pattern, but only for the opposing team. The majority of comments were at the concrete level regardless of valence. However, for the opposing team more of the positive comments were coded at the concrete level and negative comments were coded at abstract levels. These findings show that the LIB was stronger for the outgroup.

In a study done by Maass, Giordana & Fontana (1990, cited in Maass & Arcuri, 1992), the LIB was tested with groups of males and females. It was reasoned that both groups would have the same expectations for their own group and the outgroup. Subjects were given a series of drawings that depicted desirable and undesirable behaviors. Half of the behaviors were typically masculine and half were typically feminine. Subjects were asked to describe the behavior in the drawings by either free choice descriptions or choosing one of four sentences reflecting the LCM. The results revealed that regardless of mode of response, males and females described masculine behaviors performed by male protagonists with more abstract language than masculine behaviors performed by females. Female protagonists prompted the use of abstract descriptions. These results suggest that behaviors that correspond to prior expectations are described with abstract language.

In an experiment using two towns with a history of rivalry, townspeople were asked to provide summary statements about either their own town or the rival town. No evidence of the LIB was found when subjects were asked to provide summary statements rather than descriptions of specific behaviors (Lazzarato, 1989: Experiment 3, cited in Maass & Arcuri, 1992). However, subjects from these same towns showed the linguistic bias when they were asked to describe specific behaviors performed by members of their own town versus members of the rival town (Lazzarato, 1989: Experiment 4, cited in Maass & Arcuri, 1992). In fact by simply describing behavior, more abstract levels of the LCM were used regardless of group membership. The authors conclude that the LIB is limited to descriptions of specific behavioral events (Lazzarato, 1989, reported in Maass & Arcuri, 1992).

These studies repeatedly demonstrate, if not the typical linguistic intergroup bias (experiment 1, Maass et al., 1989), that at least a differential use of concrete and abstract terms is observed for the outgroup when describing concrete behavioral events. It has been maintained that an expectancies perspective provides the best explanation for many of these results (Maass & Arcuri, 1992). However it is conceded that there may be situations where social identity processes may also work to produce differential language descriptions (Maass, 1992). It is possible that social identity processes require more than simple categorization in order to produce differential language descriptions, however this has not been tested empirically.

Social Identity Theory

Social identity theory contends that social categorization motivates people to create distinctive and favorable comparison of one's group with some other group of which one is not a member (Brewer, 1979; Turner, 1975; Tajfel, 1978; Tajfel and Turner 1986). Tajfel and his colleagues found that mere categorization was enough to provoke ingroup favoritism on a subsequent point allocation tasks (Tajfel, 1970). The general paradigm that is used most often to study social identity theory is known as the minimal groups paradigm (MGP). In this setting there is no prior history between the groups to cause the biases observed, indeed the categorization into groups is usually done on a random basis having little or no importance to the person before the categorization takes place. The mere categorization into groups introduces a comparison process in which the ingroup in viewed more favorably and more deserving than the outgroup (Turner, 1975; Taylor and Moghaddam, 1987; Wilder, 1986).

Social identity theory would predict that when confronted with an unfamiliar intergroup situation the easiest evaluation possible is a we are good - they are not as good comparison between the groups. The differences in linguistic descriptions would be a function of the valence of the behaviors and membership of the protagonist. In terms of the abstract - concrete continuum, desirable behaviors will be described in abstract terms for ingroup members and in concrete terms for outgroup members. For undesirable behaviors, concrete terms will be used for the ingroup putting distance between the act and the person, while abstract terms will be used for the outgroup indicating the behavior is a more enduring quality of the person.

This pattern conforms to the we are good, they are not as good perspective indicated by SIT. By describing ingroup member's behavior in concrete terms when the behavior is undesirable, and in abstract terms when the behavior is desirable, the undesirable is divorced from the actor, and the desirable becomes an enduring quality of the actor. This is then reversed for outgroup members, such that undesirable behaviors become an enduring quality of the actor and desirable behaviors are divorced from the actor.

The concrete - abstract continuum of the LCM allows one to locate the focal point of the behavior either in the situation or with the protagonist. So, desirable behaviors can be described in a more dispositional way using the abstract end of the continuum if the protagonist is an ingroup member, or in a more situation specific way using the concrete end if the protagonist is an outgroup member. The pattern then reverses for undesirable behaviors. If social identity is the underlying process of the LIB, subjects are trying to find and make comparisons that will reflect favorably on their own group. By describing

desirable ingroup behaviors more abstractly people may be trying to claim that behavior as part of the dispositional makeup of their group. In contrast, describing negative ingroup behaviors more concretely allows people to distance the act from the group's dispositional makeup.

Experimental Problem

Social categorization has been shown to be sufficient to invoke ingroup favoritism, (e.g. Turner, 1975; Brewer, 1979; Hinkle and Brown, 1990). If the LIB is at least in part driven by social identity concerns, then it would stand to reason that this pattern of bias should appear under conditions of mere social categorization. In other words, if the LIB can be explained in terms of social identity processes, then it should show up in a minimal group paradigm, as have other forms of bias and ingroup favoritism (e.g. Brewer, 1979; Mullen, 1992).

In a minimal groups study there are no firm, well developed expectations for behavior. These well developed expectations for behavior are stereotype-based expectancies, in which social perceivers have beliefs about the attributes of different groups (see Hamilton, Sherman & Ruvolo, 1990). There are no well developed expectations under these minimal conditions because there has been no prior contact and hence no opportunity to form impressions of the group. While it is true that mere categorization may lead to a general type of schematic processing (we're good, they're not as good), this is not the same as having stereotype-based expectations for behaviors. This study will employ a minimal group paradigm to investigate whether or not the LIB pattern can be found in this baseline condition.

Social identity theory hypothesizes that even in the absence of clearly delineated expectations, the valence of the behavior and the group membership of a protagonist will interact to form a pattern of biased language usage by a social perceiver. In other words, the behavior of ingroup members with a positive valence will be described at a more abstract level of the LCM, with greater use of SVs and ADJs. While the positive behaviors of outgroup members will be described at more concrete levels of the LCM, with greater use of DAVs and IAVs. Negatively valenced behaviors of ingroup members will be described at the more concrete levels of the LCM, while the negative behaviors of outgroup members will be described at more abstract levels of the LCM.

According to one possible version of an alternative general schematic based explanation (expectancies$_t$) for LIB, social categorization will trigger generic ingroup biases such that the ingroup is seen as slightly better than the outgroup. In this case, the expectation is for the ingroup to behave positively and for the outgroup to behave negatively. The general schematic based expectancy model hypothesizes that the behavior of ingroup members with a positive valence will be described at a more abstract level of the LCM, with greater use of SVs and ADJs, while the positive behaviors of outgroup members will be described at more concrete levels of the LCM, with greater use of DAVs and IAVs. Negatively valenced behaviors of ingroup members will be described at the more concrete levels of the LCM, while the negative behaviors of outgroup members will be described at more abstract levels of the LCM. Note that SIT and expectancies$_t$ make the same predictions. The difference lies in the underlying process involved. SIT is based on motivated processes to protect the self. Expectancies$_t$ is based on general schematic processing. It may be the case that this general form of expectancies is one

aspect of the cognitive processing of SIT. However, the purpose here is to point out the possibility of cognitive and motivated processes that may lead to linguistic biases that do not rely on stereotype-based expectancies. We might contrast expectancies$_1$ with a more stereotype based expectancies model (expectancies$_2$).

Expectancies$_2$ hypothesizes that in the absence of clearly delineated expectations as in a minimal groups paradigm, no linguistic biases based on group membership should be found. In other words, no LIB patterns should be found using minimal groups.

In order to verify the presence of the usual ingroup bias in the minimal groups paradigm, a trait evaluation task was included. It is hypothesized that the usual ingroup bias effect will be replicated using this measure. Subjects should rate their own group more favorably than the outgroup on positive trait ratings. If the LIB can be explained solely in terms of social identity processes then, the LIB should be paralleled and mediated by ingroup bias on a trait evaluation task.

METHODS

Subjects

Subjects were drawn from two similar populations. There were 83 subjects from a large Midwestern university, Michigan State University (MSU) that participated for partial course credit, and 234 subjects from a Midwestern community college, Lansing Community College (LCC) that participated for partial course credit. All subjects were students in introductory psychology courses.

Materials

Categorization: Categorization of subjects into groups was achieved through the presentation of pictures depicting optical illusions. Subjects were given a booklet that contained eight pictures and were asked to choose which of the answer choices was viewed first (see Appendix B for materials). An example of one of the illusions, is the well known picture of the old woman/young woman (see page 105, Appendix B). Subjects had to complete the task in two minutes. They were then randomly assigned a group label, either adapter or challenger. Subjects were lead to believe that their group label was based on their responses to the categorization task. This procedure for categorization was adapted from a procedure employed by Hymes, Swanson and Hatfield (1993). This procedure was employed for its novelty given the relative sophistication of introductory psychology students, many of whom have taken psychology in high school. The argument here is that many students might have been somewhat familiar with more commonly used procedures such as the dot estimation task, or the drawing or painting preference task.

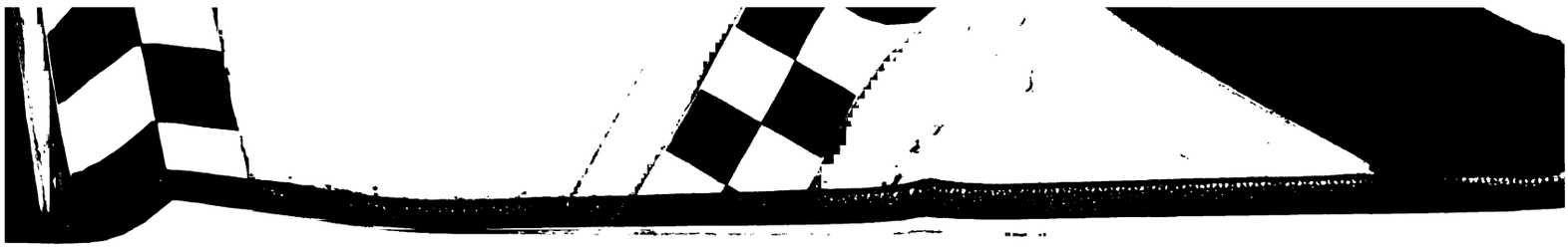
Level of linguistic abstraction task: This task consisted of sixteen drawings depicting eight acts of both positive and negative behaviors (see pages 114-129) in Appendix B for materials). There were four sentences that described the action in twelve of the sixteen drawings and two sentences describing the behavior in four drawings depicting solitary actions. The solitary drawings had descriptive sentences using DAVs and ADJs. This is due to the fact that IAVs and SVs are interactional verbs that can not be used to describe solitary behaviors in a subject-verb-object sentence. Subjects were asked to choose one of the sentences to describe the behavior depicted in the drawing. The sentences

corresponded to the four of the linguistic category model (LCM) developed by Semin and Fiedler (1988). This task was adapted from the procedure used by Maass et al. (1988).

Pilot studies and development of linguistic abstraction task: The task was developed by employing a professional artist to draw a series of thirty drawings depicting various behaviors both positive and negative in nature. Two drawings were removed from further consideration by the author due to their highly ambiguous nature. A set of twenty-eight drawings was then pretested with 35 introductory psychology students that did not participate in the main experiment. These twenty-eight drawings were rated on a 1 to 5 scale from very positive to very negative. Subjects were also given two to four sentences where they were asked to choose from several verb choices the verb that best fit the drawing. For example, the subjects would see a drawing of someone punching someone else. The protagonist was labeled person A and the other person was labeled B in the drawing. The subject was given the sentence, "A _____ person B." They would then have to choose a verb to fill in the blank for each of the three verb levels. For the DAV level they were given the choices: punches, hits, touches or none of these. The ADJ level was not presented in a subject-verb-object format due to syntactic constraints. In other words, a sentence like "John aggressive Paul" is seen as ungrammatical by speakers of English. For the ADJ level the subjects were given the sentence "A is_____." Again the subjects had to choose the adjective that best fit the behavior in the drawing. The verb choices corresponded to the levels of the LCM, where each level had three to four verb (or adjective) choices that were thought to describe the picture.

Lastly, subjects were asked to rate each drawing according to how well it fit one of two descriptive paragraphs. The first description (Set A), focused on physical attributes and traits, for example enjoys lots of physical contact, outgoing, takes risks. The second description (Set B), related to social courtesies, for example usually courteous unless preoccupied, sometimes not aware of others. Subjects were asked to choose whether or not each of the drawings fit one of the two descriptions, both descriptions or neither description. This procedure was done in anticipation of a follow up study and was used as a means of developing the linguistic task. Drawings that were chosen to be used in the main study were rated by a majority of subjects as clearly belonging to one of the two sets of descriptions. The drawings were reduced to a set of sixteen based on the results of the pilot study. The criterion used to choose the set of drawings were degree of fit with the descriptions and valence rating of the drawing. The degree of fit with the descriptions was used to yield two coherent sets of drawings (Set A drawings which corresponded with the Set A description and Set B drawings which corresponded to the Set B descriptions). The valence rating was used to divide the drawings into two sets of positive and negative behaviors (see appendix A, pages 85-100). Once the number of drawings was reduced to sixteen, and sentences describing the action in the drawings was obtained, a second pilot study was conducted.

A group of 27 introductory psychology students participated as subjects in the second pilot study. These subjects did not participate in either the first pilot study nor in the main study. Subjects were given a series of forty-two sentences and asked to rate them on a scale from 1 to 5, very positive to very negative. For example, subjects were given the sentence "A person hugs another person." They were asked to read the



sentence and then rate whether they believed the behavior was positive or negative on a 5 point scale. The sentences were the descriptive sentences from the first pilot study. These sentences describe the action depicted in the set of drawings and correspond to the levels of the LCM. The sentences were rated on their overall positive and negative quality to assess whether or not sentences at each level were given the same relative rating. In other words, we wanted to make sure that none of the sentences was rated as markedly more positive or negative than other sentences at the same linguistic level. Sentences at the abstract level tend to receive extreme ratings of positivity or negativity. So, SV and ADJ sentences derived from positive drawings were rated as a 1-very positive. Sentences derived from negative drawings were rated as a 5 - very negative. This pilot study indicated that SV and ADJ sentences were seen as more strongly evaluative than DAV and IAV sentences, as would be expected from past research (e.g. Semin & Fiedler, 1988). In addition, no significant differences were found among the sentences at each level of the LCM. The DAV sentences that were derived from drawings rated as negative, were also rated as negative. Sentences that were derived from drawings rated as positive, were also rated as positive. This pattern was true for all levels of the LCM. These results indicate that the valence of the drawings and sentences are the same.

Subjects were then asked to choose which sentence best described the set of sixteen drawings. This exercise was performed to provide a baseline for comparison with responses given in the main study. Here, subject's were given no information about the drawings and were simply asked to choose which sentence best described the action in the drawing. Not surprisingly, the majority of responses for all drawings was the sentence that corresponds to the lowest level of abstraction, the descriptive action verb (DAV).

Trait evaluations: The trait evaluation task used in the main study, consisted of eight positive adjectives. Subjects were asked to rate both their group and the other group on the likelihood of possessing the each of the eight traits. Subjects were given a scale from 1 to 5 ranging from very unlikely to possess the trait to very likely to possess the trait. This measure was used due to its relative success in other studies of ingroup favoritism (e.g. Jackson and Sullivan, 1989; Tajfel, 1982).

Procedure

Subjects reported to a standard classroom in groups of one to twenty-five. Upon entering the room subjects were seated such that no two subjects were directly next to one another. Once seated the subjects were given a consent form that was read, signed and immediately returned to the experimenter. Once the consent forms were returned, students were given a 3" x 5" index card. They were instructed to choose a whole number between 100 and 999, and a letter between A and Z. They were told that this was to be their experimental number and to record the number on all of the answer sheets used during the course of the experimental session. The experimenter then read a general description of the experiment and the tasks that subjects will be asked to perform (See page 99, Appendix B).

Subjects were told that experiment was concerned with perceptual mind sets and how people of different mind sets perform on various tasks. They were also told that the visual acuity test would tell us whether they were a perceptual adapter or a perceptual challenger. The experimenter then handed out the materials for the categorization task, this was called the visual acuity test. This first task consisted of a computer scan answer

sheet, a pencil if needed, and the booklet containing the visual acuity test. In this task subjects are given a series of eight optical illusions and asked to make a judgment about what is seen in the picture. For example, subjects were given the figure/ground picture of a vase or two faces and asked to choose which figure they saw first. Subjects were given two minutes to complete this task. Once the task was completed the experimenter collected all materials (except the pencil) and asked subjects to wait quietly while their test was scored. The experimenter then took the answer sheets to the front of the room where they placed a prepared answer sheet over each subject's scantron answer sheet. The experimenter while appearing to score the answer sheets actually randomly assigned each subject to the adapter or challenger group. An attempt was made to distribute group membership on a fairly even basis across all experimental sessions. This was done to minimize and control for relative group size effects. Once all subjects had been assigned to a group, the experimenter wrote each experimental number with the group name on the chalkboard at the front of the room. For example, subjects would see: #111 - Adapter, written on the chalkboard.

Subjects were then asked to note their group name and to write it down on the 3" x 5" card. Subjects were told that previous researchers had found a relationship between perceptual groups and personality characteristics. This information was included to give credence to the cover story used with the psycholinguistics task.

The experimenter then handed out a booklet that contained the level of linguistic abstraction measure, the trait evaluation measure, demographic and experimental purpose questions. They were told that the psycholinguistics task was the result of eight adapters and eight challengers recording their daily activities for a month. They were told that the

drawings they would see was a random sample of the behaviors from those dairies. Their task was to pick the sentence that best described the behavior in the drawing. The force choice format of the sentences corresponds to the four levels of the LCM. However in the four drawings depicting solitary behaviors only the descriptive action verb level and the adjective level are used. This is due to the fact that IAVs and SVs are interactional verbs that can not be used to describe solitary behaviors in a subject-verb-object sentence. Also, IAVs and SVs do not lend themselves to active sentences that do not have an animate object. For instance, speakers of English would find the sentence "John hurts the book" ungrammatical. There were two random orders of the presentation of the drawings. The group label of the protagonist was marked in each drawing by either a "D" for adapter or a "C" for challenger on the clothing of the protagonist. The group labels of the protagonists (adapter and challenger) were balanced over the two sets of drawings (set A and set B). So for each random order, half of the booklets labeled set A drawings as adapters and set B drawings as challengers, while the other half of the booklets depicted set A drawings as challengers and set B drawings as adapters.

Subjects were then instructed to rate the likelihood of each of the groups possessing a series of eight traits (see page 129, Appendix B). The eight traits were all positive and were rated on a 1 to 5 scale from very unlikely to possess the trait to very likely to possess the trait. The presentation order of the group to be rated first was counterbalanced such that half of all booklets rated adapters first, while half rated challengers first. Subjects were then asked to answer demographic questions, and a question concerning their thoughts on the purpose of the experiment. Subjects were then debriefed and excused.

Design

The design for the level of linguistic abstraction is a 2 (membership of the subject; adapter versus challenger) x 2 (membership of protagonist; ingroup versus outgroup) x 2 (valence of the behavior; positive versus negative) factorial with the last factor within subjects. The mean level of the LCM reported is the dependent variable.

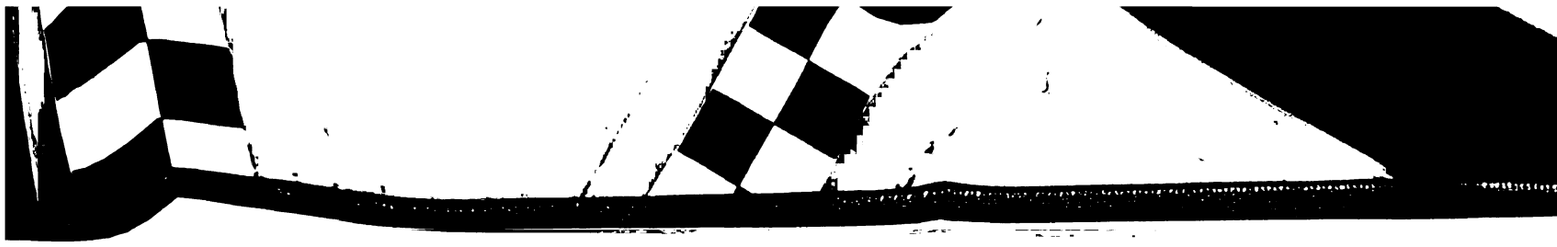
The design for the trait evaluation is a 2 membership of subject (adapter versus challenger) x 2 target (ingroup versus outgroup) factorial with the last factor with subjects. The mean level of the trait ratings averaged across all eight traits is the dependent measure.

RESULTS

Level of Linguistic Abstraction

The design used to analyze level of linguistic abstraction was a 2 (membership of subject; adapter versus challenger) x 2 (set designation of drawing; set A versus set B) x 2 (membership of the protagonist; ingroup versus outgroup) x 2 (school of subject; MSU versus LCC) x 2 (order of drawings; set A first versus set B first) x 2 (valence of the behavior; positive versus negative) mixed factorial, the last factor within subjects.

As results of repeated measures analysis of variance (ANOVA) revealed no significant effects for school of subject or order of drawings these factors are not considered further in the following analyses. The results of the ANOVA is presented in Table 1. As intended, ANOVA results showed no effects due to group label of subject $F(1,313)=.79$, n.s. ANOVA results did not reveal the LIB interaction between membership



of protagonist and valence $F(1,313) = 1.26$ n.s. The means of this non significant interaction are presented in Table 2. Even though the means are in the direction predicted by LIB, the differences are clearly trivial.

A power analysis was performed to ascertain whether a lack of power in the design could account for the results. The estimated effect size of this interaction is $d = .28$. A power analysis reveals that the power in the design is approximately .77, for the given effect size (d), an alpha of .05, and a sample size of 317 (see Cohen, 1988 p. 312). According to Cohen (1988) this effect size is in the small to medium range. What he defines as a small effect size $d = .20$, has a power estimate of .44 given the same alpha level and sample size. A medium effect size $d = .40$, has a power estimate of .95, while a large effect size $d = .80$, has a power estimate of .995.

Further, no main effect was found for group membership of protagonist $F(1,313)=.55$, n.s. However, an interaction for set of drawing and valence was found, $F(1,313) = 27.24$, $p < .001$. Set B drawings depicting actions of social courtesy or discourtesy were rated consistently at a higher level of abstraction than Set A drawings which depicted actions of a physically loving or aggressive nature. This finding was regardless of group membership of protagonist or valence of behavior. Post hoc analyses using the Scheffe' method revealed that negative set B behaviors were rated at a significantly higher level (see Table 3), Set B positive behaviors. These findings account for the interaction between set of drawing and valence.

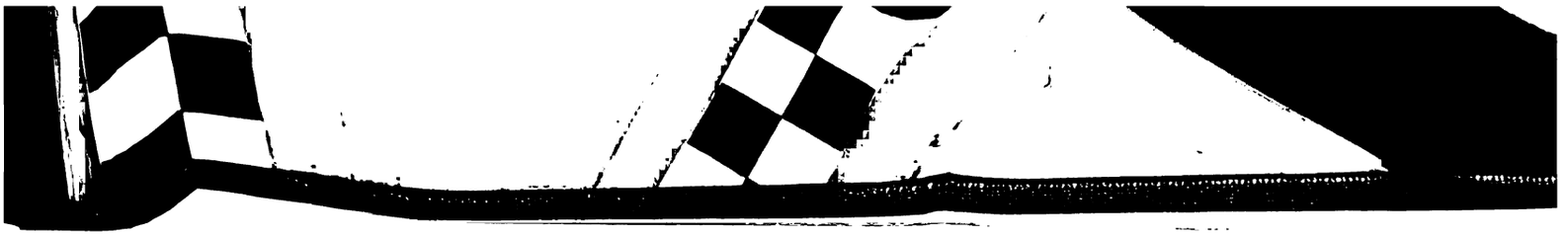


Table 1

Summary ANOVA Table for Level of Linguistic Abstraction

Source	SS	df	MS	F	sig. of F
Ss Group Label	.84	1	.84	.79	n.s.
Protagonist Membership	.59	1	.59	.55	n.s.
Group Label x Protagonist Membership	1.05	1	1.05	.99	n.s.
Within cell	331.03	313	1.06		
Set of Drawing	114.69	1	114.69	315.18	.001
Set of Drawing x Group Label	.37	1	.37	1.02	n.s.
Set of Drawing x Protagonist Membership	.00	1	.00	.00	n.s.
Set of Drawing x Group x Protagonist	.43	1	.43	1.17	n.s.
Within cell	113.89	313	.36		
Valence	.00	1	.00	.02	n.s.
Valence x Group Label	.06	1	.06	.27	n.s.
Valence x Protagonist	.29	1	.29	1.26	n.s.
Valence x Group Label x Protagonist	.01	1	.01	.06	n.s.
Within cell	72.70	313	.23		

Table 1 (continued)

Source	SS	df	MS	F	sig. of F
Set x Valence	8.67	1	8.67	27.24	.001
Set x Valence x Group.	.00	1	.00	.01	n.s.
Set x Valence x Protagonist	.15	1	.15	.47	n.s.
Set x Valence x Group x Protagonist	.11	1	.11	.34	n.s.
Within cell	99.68	313	.32		

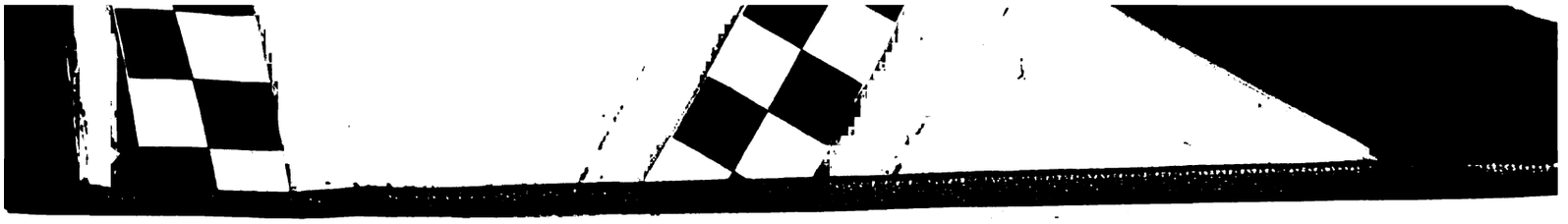


Table 2

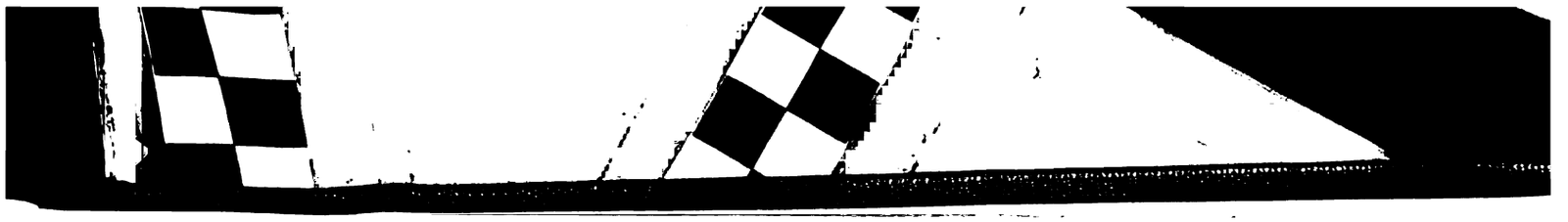
Means for Interaction of Protagonist Membership and Valence

	Positive	Negative
Ingroup		
M	1.97	1.99
Outgroup		
M	2.04	2.02

Table 3

Means Table: Set and Valence

	Negative	Positive
Set A		
M	1.63	1.79
SD	(.64)	(.40)
n	317	317
Set B		
M	2.39	2.22
SD	(.64)	(.75)
n	317	317



Trait Judgments

The trait judgment task was also used to measure ingroup bias. The design was a 2 (group label of subject; adapter versus challenger) x 2 (target of trait judgment; ingroup versus outgroup) mixed factorial, with the last factor within subjects. ANOVAs performed on this design support the prediction of main effect for target of trait judgment $F(1, 312) = 18.10$, $p < .001$. The ingroup ($M=3.55$) was rated as significantly more likely to possess the positive traits than the outgroup ($M=3.37$), $t(313)=4.26$, $p<.001$, one-tailed. The interaction of group label and target trait judgment was marginally significant $F(1,312)=3.59$, $p = .059$. Separate analyses were conducted for each of the group labels to find out possible causes for the marginally significant interaction. Those subjects labeled adapters rated the ingroup target ($M = 3.55$) significantly higher than the outgroup target ($M = 3.45$), $t(154) = 1.92$, $p < .05$ one tailed. The subjects labeled challengers also rated the ingroup target ($M = 3.54$) higher than the outgroup target ($M = 3.29$), $t(158) = 3.92$, $p < .001$ one tailed. The significance level of the interaction between group label and target trait judgments was driven by the somewhat larger effect for the challenger group.

Analysis of Covariance and Correlational Analysis

To test for the possibility that the group evaluation was mediating the non significant LIB, data analysis of covariance (ANCOVA) was performed. While the LIB effect was not significant it is still useful to see if the ingroup bias is paralleled by the LIB. The evaluative trait judgments for both the ingroup and the outgroup was covaried out of the analysis of linguistic abstraction and the results were essentially the same. There was no interaction for protagonist membership and valence $F(1,310) = 1.41$, n.s. The interaction

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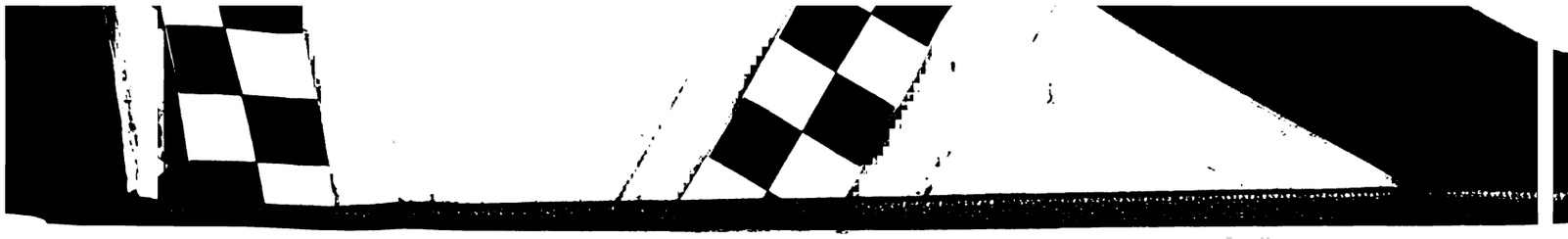
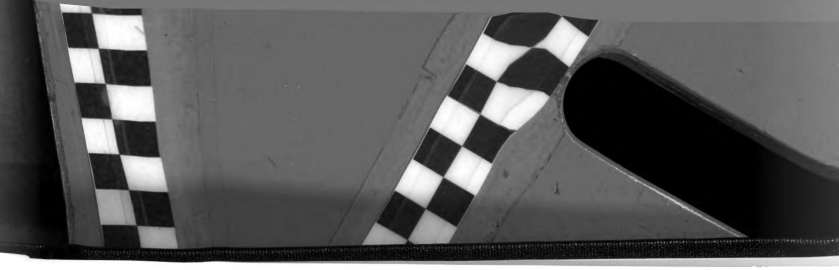


of set of drawing and valence remained, with a minor variation in the F-ratio, $F(1,310) = 27.37$, $p < .001$. The variation in the F-ratio traits may be explained by the reduced degrees of freedom in the denominator, owing to missing data.

The level of linguistic abstraction was covaried out of the analysis of trait evaluations and the results are the same no interaction with group label of subject and group membership on trait judgment, and a main effect for group membership $F(1,312) = 18.10$, $p < .001$.

ANCOVA with sex as the covariate was performed on both the linguistic abstraction measure and the trait measure. The results were not changed when sex was covaried out of the analysis. There was no interaction between protagonist membership and valence, $F(1,313) = 1.26$, n.s. The interaction between set of drawing and valence remained the same, $F(1,313) = 27.24$, $p < .001$. The main effect for the target of trait ratings also remained the same, $F(1,312) = 18.10$, $p < .001$.

A correlational analysis of the dependent measures was conducted to further assess any relationship between the level of linguistic abstraction measure and the trait ratings. In order to perform this analysis index measures were computed from the data. The LIB-positive measure was computed by subtracting the outgroup positive ratings from the ingroup positive ratings. This computation yields an index measure of the magnitude of linguistic bias for positive behaviors. Here, ratings greater than zero indicate that the ingroup was described with higher levels of abstraction than the outgroup. A LIB-negative measure was computed by subtracting the negative ingroup ratings from the negative outgroup ratings. This measure gives an overall index of the magnitude of linguistic bias for negative behaviors. The higher the rating, the more negative outgroup behaviors were



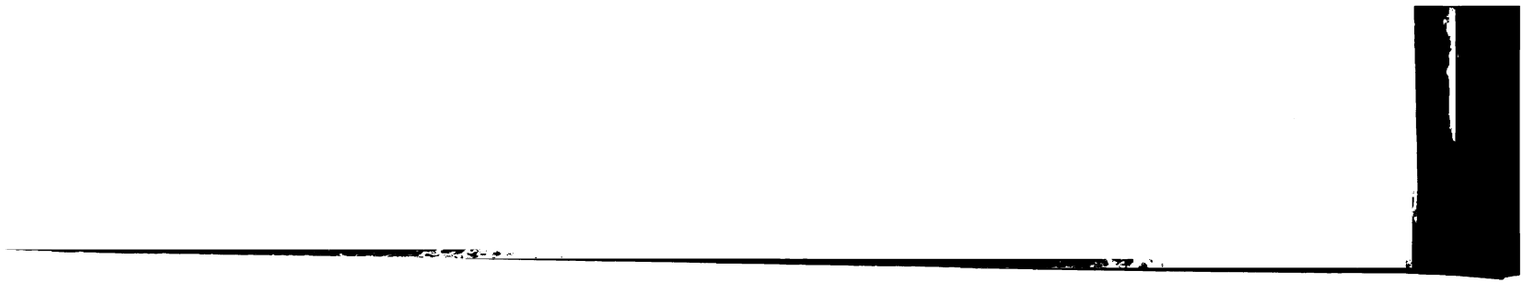
rated at higher levels of linguistic abstraction relative to the ingroup. An index of the overall LIB effect was then computed by adding the ratings of LIB-positive and LIB negative. These three index measures were correlated with an ingroup favoritism index (IF). The IF measure was computed by subtracting the mean rating of the outgroup from the mean rating of the ingroup. This index gives on overall measure of how subjects rated their group relative to the outgroup. Positive scores indicate that subjects feel the ingroup is more likely to possess the eight positive traits than the outgroup. The results of the analysis are presented in Table 4. The positive and negative LIB measures significantly correlated to one another ($r = -.264$, $p < .001$). However, the LIB measures are not significantly correlated with the IF measure. These results suggest that the tendency to favor one's own group on trait ratings was not related to patterns of biased language use.

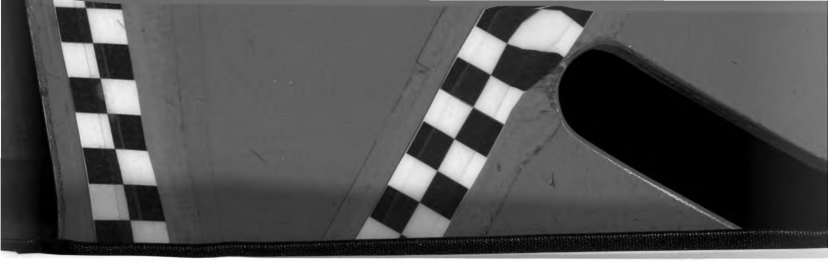
Table 4

Correlations: Linguistic Bias and Ingroup Favoritism

	LIB-Positive	LIB-Negative	LIB	IF
LIB-Positive	1.000			
LIB-Negative	-.264*	1.000		
LIB	.807*	-.783*	1.000	
IF	.112	-.023	.086	1.000

*p = .001





DISCUSSION

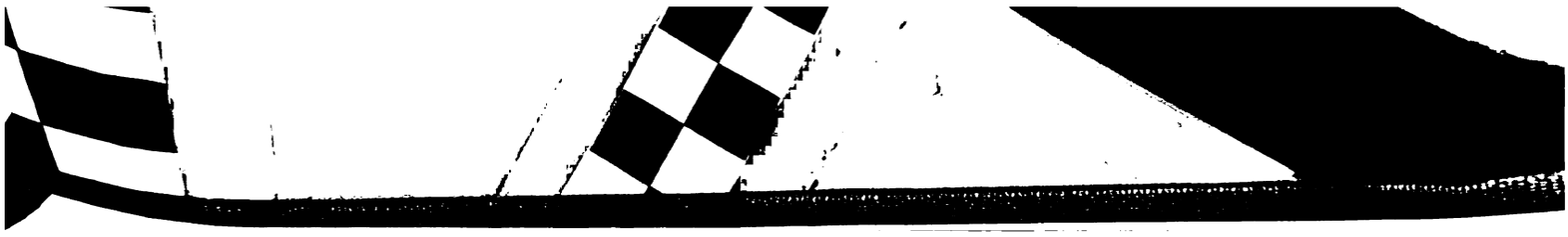
Interpretation of the Results

The hypothesis that mere social categorization is sufficient to produce the linguistic intergroup bias was not supported by the results. Subjects did not rate the behaviors of ingroup protagonists different from the behaviors of the outgroup protagonists, regardless of the valence of the behavior. There was no discernible pattern of language use that would indicate the presence of ingroup favoritism.

The hypothesis that mere social categorization is sufficient to produce ingroup favoritism was supported when overall trait evaluations were used for both groups. This is a replication of the many studies on ingroup bias in a minimal group setting (e.g. Tajfel, Flament, Billig, and Bundy, 1971; Tajfel and Billig, 1974; also see Brewer, 1979; Tajfel, 1982; Wilder, 1986; Diehl, 1992 for reviews of the literature). This finding indicates that subjects did tend to favor their own group solely on the basis of their category label.

That the LIB pattern was not found in this study can not be put down to poor methodology or lack of power. The methodology was carefully constructed and pilot tested The materials were piloted with subjects similar to the subjects that participated in the main study. The power of the interaction predicted by the LIB was at an acceptable level (see Cohen, 1987), the probability of committing a type II error was less than 25%. Rather, what appears to be happening here is that other conditions need to be met in order to observe the LIB. In other words, subjects need more than just a category label to trigger the mechanisms of the LIB. Mere categorization and the self protective strategies that it gives rise to is not enough in and of themselves to evoke the LIB.

The ingroup favoritism that was observed with the trait evaluations could be due to self protective strategies of social identity theory. However, social identity theory has come under fire for claims that it makes in regards to self esteem (e.g. Abrams & Hogg, 1988). Subjects were given no other information about the groups other than they belonged to one and not the other. Yet even in this near "minimal" condition subjects consistently evaluated their own group as more likely to possess the group of positive traits. Psychologically, subjects could be making their own group distinctive by giving them a slightly better evaluation in relation to the outgroup (e.g. Tajfel, 1982; Wilder, 1986). This type of comparison process is typically viewed in connection with the self protective strategies of social identity theory (see Tajfel, 1982; Wilder, 1986). According to social identity theory, group membership becomes part of the nexus of personal identity, and in order to feel good about oneself, one needs to feel good about one's group memberships. One of the ways this is achieved or maintained, is through the process of social comparison. In comparing one's own group with an outgroup on some salient dimension the tendency is to make one's own group distinct through ingroup favoritism (see Brewer, 1979; Wilder, 1986). It must be pointed out that the work of Abrams and Hogg (1988) questions whether self protection (self esteem protection) is the motivational force behind discriminatory behavior and social identity in intergroup settings. They report that the findings of the literature is mixed in support of what they call the self-esteem hypothesis. They argue that motives for a coherent self-concept and the search for meaning in a social situation are equally plausible forces that may be driving discriminatory behavior in intergroup settings (Abrams & Hogg, 1988). While the present findings do not address the underlying



motivational processes of social identity theory it is clear that some form of ingroup bias took place in the study.

Theoretical Implications

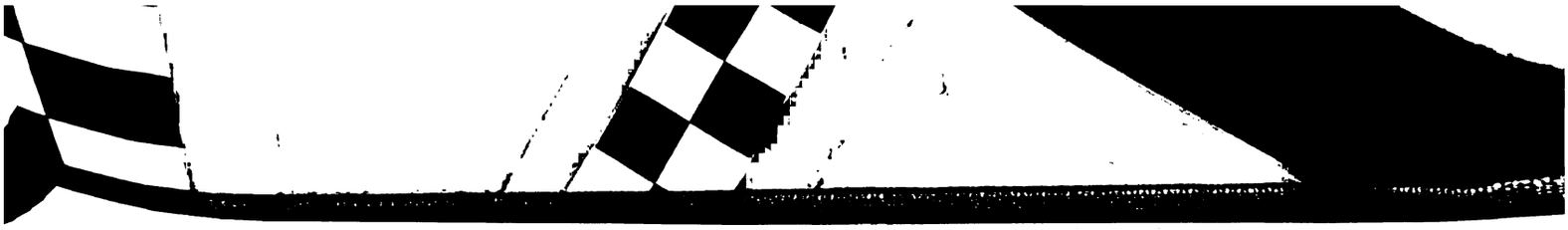
The findings of this study taken together, clarify some of the questions of the underlying mechanisms of the LIB. Maass, et al. (1989) while favoring an explanation of stereotype-based expectancies for the LIB, concede that SIT may also explain their findings. The present study would indicate that SIT processes are not sufficient in and of themselves to produce the LIB. This study also does not find support the expectancies$_1$, schematic model, where cognitive processes would have led to some form of linguistic bias. The expectancies$_1$, schematic model predicted that a LIB would be found due to general schematic processing of information about the ingroup and the outgroup. The ingroup in this model is seen as slightly better than the outgroup. In contrast, the expectancies$_2$ model (stereotype-based expectancies) was supported through the null results that revealed no patterns of linguistic bias. This model predicted that no LIB patterns would be found because there was no basis on which stereotype-based expectancies could be formed.

In this study, subjects had little to no expectations of behavioral patterns of either the ingroup or the outgroup. Under these conditions no evidence of the LIB pattern was found, yet when ingroup favoritism was measured by trait evaluations a clear bias towards the ingroup was observed. Subjects demonstrated ingroup bias by evaluating their own group as just a little bit better than the other group in terms of trait evaluations. This lends support to the view that the LIB is not solely driven by processes associated with social

identity, but it does not rule out social identity processes in other contexts. In previous studies (Lazzarato, 1989 cited in Maass and Arcuri, 1992; Maass et al.,1989) when the LIB was observed, the groups were natural groups that had a history of interaction, usually of a competitive nature. It may very well be the case that in these previous studies the LIB was driven by an interplay of expectations and social identity processes. That is not the case in the present study. Here we have clear evidence of subjects exhibiting ingroup bias, yet no discernible patterns of differential language use as predicted by the LIB.

Patterns of differential language use was observed when looking at the different sets of drawings used in the study. The drawings that depicted more physical behaviors (i.e. comforting, loving and abusive, aggressive) were rated lower in linguistic abstraction than drawings that depicted behaviors of social consideration (i.e. courtesy and rudeness). This finding essentially means that subjects saw physical behaviors as less stable and enduring than behaviors involving consideration. Within each set of drawings significant differences were observed between positive and negative behaviors. In the set depicting physical behaviors, positive behaviors were rated significantly higher in linguistic abstraction than negative behaviors. This means that subjects saw loving, comforting behaviors as more stable and enduring than abusive or aggressive behaviors. Within the set depicting behaviors of consideration, negative behaviors were rated at a significantly higher level of linguistic abstraction than positive behaviors. In other words, subjects saw rude, discourteous behaviors as more stable and enduring than courteous and considerate behaviors.

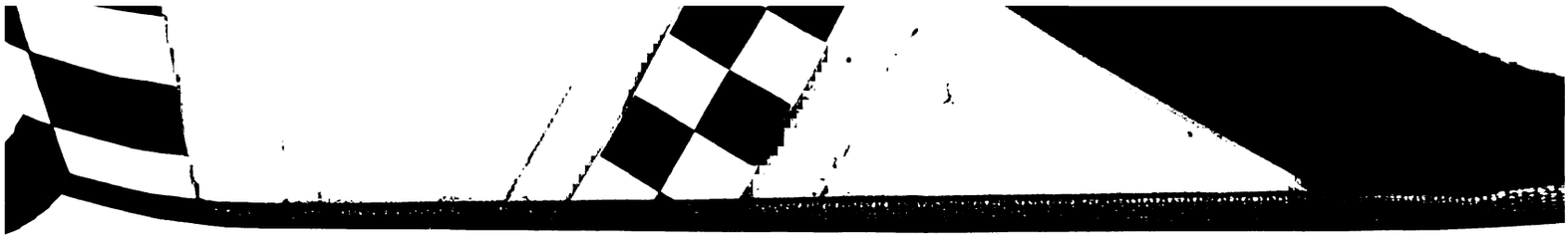
The findings suggest that psychology processes other than those associated with SIT or the general schematic processing of expectancies, need to be present in order to



observe the LIB. As stated earlier, Maass et al. (1989), favor an explanation based on stereotype-based expectations for behavior. Behavioral expectations that are confirmed are described with the abstract levels of the LCM, expectations that are disconfirmed are described with the concrete levels of the LCM.

Maass, Giordana and Fontana (1990, cited in Maass and Arcuri, 1992), conducted a study to test the stereotype-based expectancy explanation for the LIB. In this study, stereotypical behaviors of men and women were presented to subjects using the picture / forced choice LCM paradigm. They hypothesized that men and women should both describe congruent stereotypical behaviors at a more abstract level than incongruent behaviors. They found a trend in the predicted direction but the results were not statistically significant. According to this explanation, the current findings may viewed in light of the fact that the subjects had little to no expectations for behaviors of either group. This supports the hypothesis of the expectancies$_2$, stereotype-based model.

The expectancies$_2$, stereotype based model predicted that the LIB would not be evidenced under the conditions of the present study. However, the pattern of results in which positive physical behaviors and negative courtesy behaviors were described with a higher level of linguistic abstraction can be seen in terms of behavioral expectancies. We don't expect people to be loving and comforting unless it is part of their disposition, and we don't expect people to be rude and discourteous unless it is a dispositional quality. To put it another way, loving, comforting physical behaviors and rude, discourteous behaviors are not elicited or dependent on situational constraints.

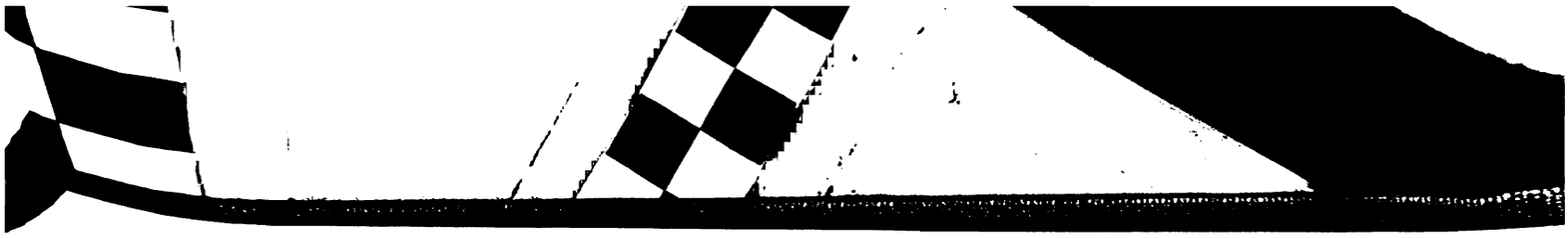


Limitations

The results must be viewed in light of some methodological limitations. Many of the procedures are relatively new (the categorization task, category labels, and the picture / forced choice linguistic paradigm) and the reliability of these measures and procedures needs more exploration. The picture / forced choice format can possibly be improved through further pilot testing, and the use of only interactional drawings. The category labels used in the study produced their own effects. Subjects labeled challengers showed a more pronounced bias effect, than those labeled adapters. It is clear that both groups demonstrated ingroup favoritism, but it was better to be a challenger than an adapter. However, the differences between group labels does not negate the bias effect that was found. Future research should also pilot the use of any novel labels that have not be used empirically as part of a categorization procedure. While these issues do not invalidate the findings, they do suggest directions for improvement and refinement of these procedures.

Future Research

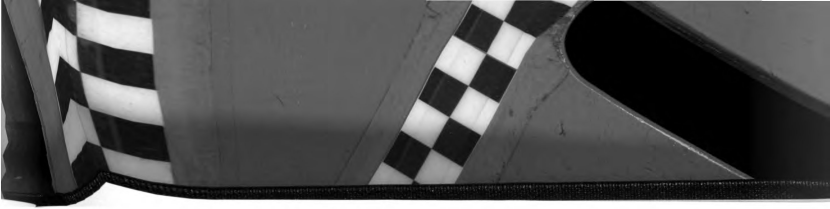
Future research in this area should explore the role that stereotype-based expectations play in the linguistic intergroup bias. This may be achieved through a study where expectations are experimentally manipulated in the lab. Attention should be paid to behaviors that are consistent and inconsistent with the induced expectations. According to the stereotype-based expectancy model proposed by Maass et al. (1989), behaviors consistent with the induced expectations should be described by more abstract levels of the LCM. Inconsistent behaviors should be described with the concrete levels of the LCM.



This would give some indication as to whether behavioral expectancies or an interplay of expectancies and social identity is responsible for the LIB.

A planned follow-up study addresses these issues. Stereotype-based expectancies will be manipulated such that some behaviors shown to subjects will be consistent with the stereotype, while others will not. The drawing / forced choice, level of linguistic abstraction will be used. Subjects will be given a descriptive paragraph that contains the expectancy stereotypes. Subjects will be asked to choose the sentence that best describes the action in the drawing, and that their responses will be compared to graduate students in psychology who have worked on the project. They will be told that the descriptions are taken from case studies and that they are given this information just as the graduate students who worked on the project. Half of the drawings in the task will fit the stereotype, half will not. Also half of the drawings will be of a positive nature and half of a negative nature. It is predicted by the stereotype-based expectancy model that drawings inconsistent with the stereotype will be described at more concrete levels of the LCM than drawings that are consistent with the stereotype.

More work needs to done on delineating how the LCM may be used as a less intrusive measure of stereotyping. What role does the use of interpersonal verbs and adjectives play in the formation and/or maintenance of stereotypes? Maass and Arcuri (1992) have proposed that abstract verbs may play a role in the persistence of stereotypes. More empirical work is needed to see if this is the case or if the causal direction goes the other way--reliance on stereotypes fosters the use of more abstract interpersonal verbs. The use of language in intergroup contexts is an area which may provide us with another revealing perspective on intergroup relations.



Conclusions

The linguistic intergroup bias may be a misnomer for a phenomenon that is more pervasive and not dependent on an intergroup context. We have shown that mere categorization is not sufficient to produce this pattern of language use. The explanations proposed for the level of linguistic abstraction findings would also indicate that group membership is not a sufficient condition of the LIB pattern. If the pattern of language use in these experimental conditions is driven by stereotype-based expectancies, this pattern of use may be more properly termed "linguistic expectancy bias" or "linguistic stereotype bias". This not to say that a bias in language use does not occur in intergroup situations, however the mechanisms underlying this process appear not to derive from social categorization, per se.

Intergroup relations and the biases that accompany those relations is an important and timely topic area. The changing face of international relations is bringing more and more diverse groups into contact with one another. Understanding the mechanisms of social perception and judgment at the group level is of paramount concern. The work on the linguistic intergroup bias has provided us with another way of looking at intergroup perceptions -- through language. Biases and stereotypes may be marked by specific patterns of language. These may also be largely unconscious processes (e.g. Semin & Fiedler, 1988; Fiedler, Semin & Bolten, 1989; Fiedler & Semin, 1992). We typically do not say to ourselves, "Well that guy is a member of an outgroup so any negative act must be dispositional." So language use may provide us with a window on very sensitive issues that few would spontaneously report. In other words, language may provide us with a method of looking at implicit stereotypes and biases that is not intrusive and reactive.

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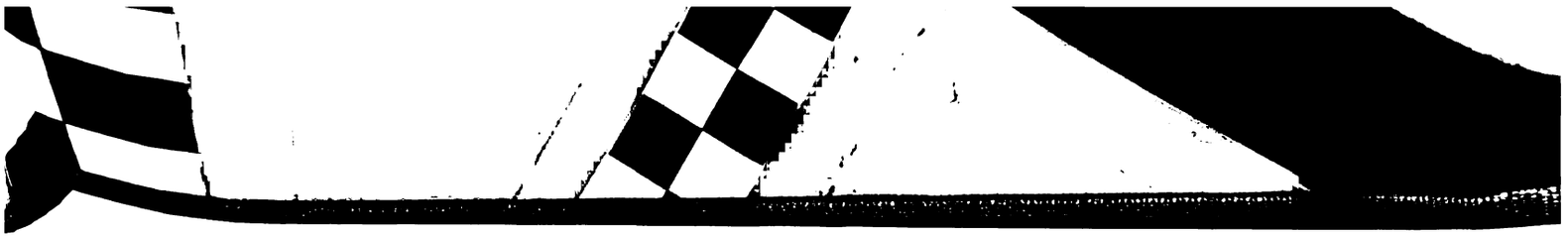

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APPENDICES

Appendix A - Materials for pilot study 1 and pilot study 2

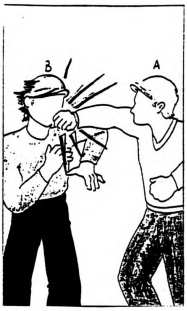
INSTRUCTIONS FOR SOCIAL JUDGMENT TASK

Task 1

In your booklet you will see a series of drawings and you will be asked questions about the action in the drawing. We are concerned with your true judgments about the drawings. Please feel free to use the "none of the above" answer choice if none of the words are appropriate in describing the action of the drawing. Mark your answers on the answer sheet provided. If you have any questions please raise your hand and the experimenter will come to your desk.

Task 2

In this portion of the experiment you will be asked if the drawings fit general descriptions. Again, if you feel that the action in the drawing does not fit either description, use the "neither A nor B" answer choice. There is a separate answer sheet for the second task. Please make sure you have two answer sheets, if you don't please ask the experimenter.



Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. punches b. hits c. touches d. none of these

2. A _____ person B.

a. hurts b. harms c. injures d. none of these

3. A _____ person B.

a. dislikes b. resents c. loathes d. none of these

4. A is _____ .

a. aggressive b. hostile c. mean d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. shakes b. grabs c. holds d. none of these

2. A _____ person B.

a. hurts b. harms c. injures d. none of these

3. A _____ person B.

a. dislikes b. resents c. hates d. none of these

4. A is _____ .

a. violent b. hostile c. mean d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. slaps b. hits c. strikes d. none of these

2. A _____ person B.

a. hurts b. harms c. injures d. none of these

3. A _____ person B.

a. dislikes b. resents c. hates d. none of these

4. A is _____ .

a. cruel b. ill-tempered c. mean d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. pushes b. shoves c. jostles d. none of these

2. A _____ person B.

a. hurts b. harms c. injures d. none of these

3. A _____ person B.

a. dislikes b. is mad at c. loathes d. none of these

4. A is _____ .

a. moody b. hostile c. aggressive d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ at person B.

a. yells b. shouts c. screams d. none of these

2. A _____ person B.

a. hurts b. harms c. injures d. none of these

3. A _____ person B.

a. dislikes b. is angry at c. loathes d. none of these

4. A is _____ .

a. unsympathetic b. hostile c. moody d. none of these

5. Is the behavior of A:
a. very positive b. positive c. neutral d. negative
e. very negative

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Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. holds b. hugs c. touches d. none of these

2. A _____ person B.

a. helps b. consoles c. comforts d. none of these

3. A _____ person B.

a. likes b. loves c. feels warmly toward d. none of these

4. A is _____ .

a. loving b. caring c. supportive d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. hugs b. holds c. embraces d. none of these

2. A _____ person B.

a. comforts b. helps c. soothes d. none of these

3. A _____ person B.

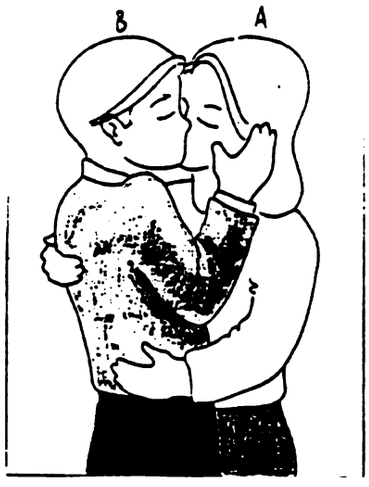
a. likes b. admires c. is fond of d. none of these

4. A is _____ .

a. friendly b. supportive c. loving d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative



Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. kisses b. holds c. embraces d. none of these

2. A _____ person B.

a. enchants b. excites c. arouses d. none of these

3. A _____ person B.

a. loves b. likes c. desires d. none of these

4. A is _____ .

a. loving b. amorous c. passionate d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ .

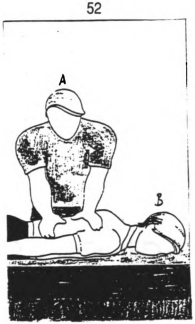
a. dances b. moves c. shakes d. none of these

2. A is _____ .

a. limber b. graceful c. active d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative



Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. massages b. rubs c. touches d. none of these

2. A _____ person B.

a. heals b. soothes c. calms d. none of these

3. A _____ person B.

a. likes b. cares for c. respects d. none of these

4. A is _____ .

a. skillful b. helpful c. kind d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. smiling at b. talking to c. chatting with d. none of these

2. A _____ person B.

a. charms b. captivates c. interests d. none of these

3. A _____ person B.

a. is appreciative of b. respects c. likes d. none of these

4. A is _____ .

a. friendly b. extroverted c. amiable d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ a desk.

a. sitting at b. daydreaming at c. cleaning d. none of these

2. A is _____ .

a. tidy b. organized c. industrious d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

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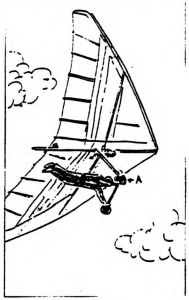


Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ .

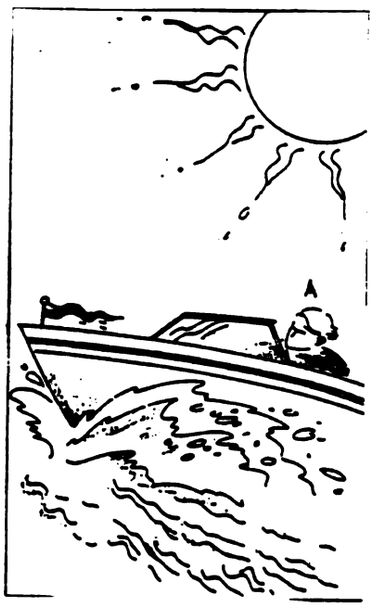
a. hang gliding b. soaring c. flying d. none of these

2. A is _____ .

a. adventurous b. daring c. bold d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative



Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ a speedboat.

a. driving b. racing c. steering d. none of these

2. A is _____ .

a. daring b. adventurous c. bold d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ a piece of wood.

a. sawing b. cutting c. working on d. none of these

2. A is _____ .

a. creative b. handy c. resourceful d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. picks up b. lifts c. touches d. none of these

2. A _____ person B.

a. helps b. comforts c. aids d. none of these

3. A _____ person B.

a. respects b. understands c. values d. none of these

4. A is _____ .

a. helpful b. considerate c. courteous d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ the door for person B.

a. holding b. opening c. pulling back d. none of these

2. A _____ person B.

a. helps b. aids c. assists d. none of these

3. A _____ person B.

a. respects b. appreciates c. admires d. none of these

4. A is _____ .

a. courteous b. helpful c. considerate d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ the seat to person B.

a. presents b. shows c. hands over d. none of these

2. A _____ person B.

a. helps b. aids c. assists d. none of these

3. A _____ person B.

a. respects b. understands c. appreciates d. none of these

4. A is _____ .

a. courteous b. helpful c. considerate d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ with person B.

a. talking b. speaking c. chatting d. none of these

2. A _____ person B.

a. helps b. comforts c. soothes d. none of these

3. A _____ person B.

a. respects b. understands c. feels sorry for d. none of these

4. A is _____ .

a. friendly b. empathetic c. considerate d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B and person C.

a. talks to b. chats with c. speaks to d. none of these

2. A _____ person B.

a. charms b. captivates c. delights d. none of these

3. A _____ person B.

a. respects b. understands c. admires d. none of these

4. A is _____ .

a. friendly b. warm c. likeable d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ a book.

a. reading b. looking at c. staring at d. none of these

2. A is _____ .

a. intelligent b. studious c. thoughtful d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ .

a. daydreaming b. staring c. looking into space
d. none of these

2. A is _____ .

a. wistful b. studious c. thoughtful d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ at a desk.

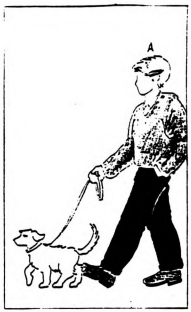
a. sitting b. working c. staring d. none of these

2. A is _____ .

a. messy b. sloppy c. disorganized d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative



Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ with a dog.

a. walking b. hiking c. strolling d. none of these

2. A is _____ .

a. thoughtful b. active c. responsible d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ .

a. writing equations b. working c. teaching d. none of these

2. A is _____ .

a. intelligent b. thoughtful c. educated d. none of these

3. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ past person B.

a. walking b. reading c. strolling d. none of these

2. A _____ person B.

a. hurts b. harms c. ignores d. none of these

3. A _____ person B.

a. dislikes b. scorns c. disrespects d. none of these

4. A is _____ .

a. discourteous b. rude c. unfeeling d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. walking by b. passing by c. strolling by
d. none of these

2. A _____ person B.

a. hurts b. harms c. hinders d. none of these

3. A _____ person B.

a. dislikes b. disrespects c. scorns d. none of these

4. A is _____ .

a. cold hearted b. withdrawn c. mean d. none of these

5. Is the behavior of A:
a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is _____ a book.

a. reading b. looking at c. staring at d. none of these

2. A _____ person B.

a. hurts b. harms c. ignores d. none of these

3. A _____ person B.

a. dislikes b. resents c. disrespects d. none of these

4. A is _____ .

a. discourteous b. unkind c. thoughtless d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. looking away from b. turning back on c. none of these

2. A _____ person B.

a. hurts b. harms c. ignores d. none of these

3. A _____ person B.

a. dislikes b. resents c. disrespects d. none of these

4. A is _____ .

a. cruel b. hostile c. mean d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A _____ person B.

a. looking away from b. not talking to c. none of these

2. A _____ person B.

a. hurts b. harms c. ignores d. none of these

3. A _____ person B.

a. dislikes b. resents c. disrespects d. none of these

4. A is _____ .

a. mean b. rude c. cruel d. none of these

5. Is the behavior of A:

a. very positive b. positive c. neutral d. negative
e. very negative

For each of the pictures below, please mark whether or not the behavior of person A fits:

A) Set A
B) Set B
C) Bothe Set A and Set B
D) Neither Set A nor Set B

Set A
Passionate, but moody. Enjoys lots of physical contact. Enjoys large groups of people. Tends to be somewhat neat about his/her surroundings. Outgoing, adventurous and takes risks. Expresses emotions physically.
Typical professions: Pilots, politicians, sports professionals

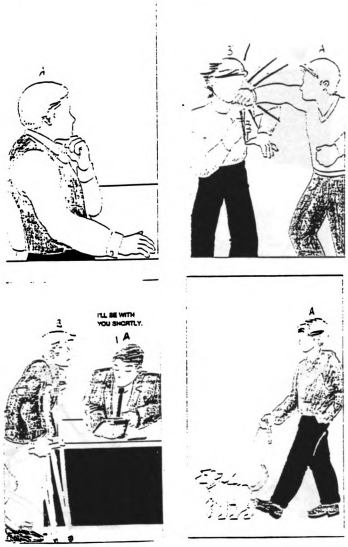
Set B
Rational, intellectual type of person. Prefers a good book to going out. Prefers a few close friends, rather than large groups. Tends to be somewhat messy about his/her surroundings. Usually courteous, unless preoccupied. Sometimes not aware of others. Tends to hold back emotions.
Typical professions: College professors, scientists, engineers

For each of the pictures below, please mark whether or not the behavior of person A fits:

A) Set A
B) Set B
C) Bothe Set A and Set B
D) Neither Set A nor Set B

Set A
Passionate, but moody. Enjoys lots of physical contact. Enjoys large groups of people. Tends to be somewhat neat about his/her surroundings. Outgoing, adventurous and takes risks. Expresses emotions physically.
Typical professions: Pilots, politicians, sports professionals

Set B
Rational, intellectual type of person. Prefers a good book to going out. Prefers a few close friends, rather than large groups. Tends to be somewhat messy about his/her surroundings. Usually courteous, unless preoccupied. Sometimes not aware of others. Tends to hold back emotions.
Typical professions: College professors, scientists, engineers



For each of the pictures below, please mark whether or not the behavior of person A fits:

A) Set A
B) Set B
C) Bothe Set A and Set B
D) Neither Set A nor Set B

Set A
Passionate, but moody. Enjoys lots of physical contact. Enjoys large groups of people. Tends to be somewhat neat about his/her surroundings. Outgoing, adventurous and takes risks. Expresses emotions physically.
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Set B
Rational, intellectual type of person. Prefers a good book to going out. Prefers a few close friends, rather than large groups. Tends to be somewhat messy about his/her surroundings. Usually courteous, unless preoccupied. Sometimes not aware of others. Tends to hold back emotions.
Typical professions: College professors, scientists, engineers

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A) Set A
B) Set B
C) Bothe Set A and Set B
D) Neither Set A nor Set B

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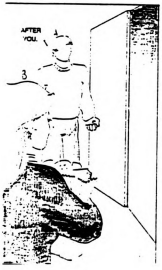
Typical professions: Pilots, politicians, sports professionals

Set B
Rational, intellectual type of person. Prefers a good book to going out. Prefers a few close friends, rather than large groups. Tends to be somewhat messy about his/her surroundings. Usually courteous, unless preoccupied. Sometimes not aware of others. Tends to hold back emotions.
Typical professions: College professors, scientists, engineers



For each of the pictures below, please mark whether or not the behavior of person A fits:

A) Set A
B) Set B
C) Bothe Set A and Set B
D) Neither Set A nor Set B

Set A
Passionate, but moody. Enjoys lots of physical contact. Enjoys large groups of people. Tends to be somewhat neat about his/her surroundings. Outgoing, adventurous and takes risks. Expresses emotions physically.
Typical professions: Pilots, politicians, sports professionals

Set B
Rational, intellectual type of person. Prefers a good book to going out. Prefers a few close friends, rather than large groups. Tends to be somewhat messy about his/her surroundings. Usually courteous, unless preoccupied. Sometimes not aware of others. Tends to hold back emotions.
Typical professions: College professors, scientists, engineers

For each of the pictures below, please mark whether or not the behavior of person A fits:

A) Set A
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D) Neither Set A nor Set B

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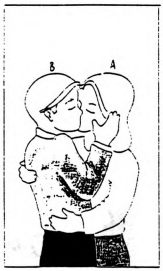
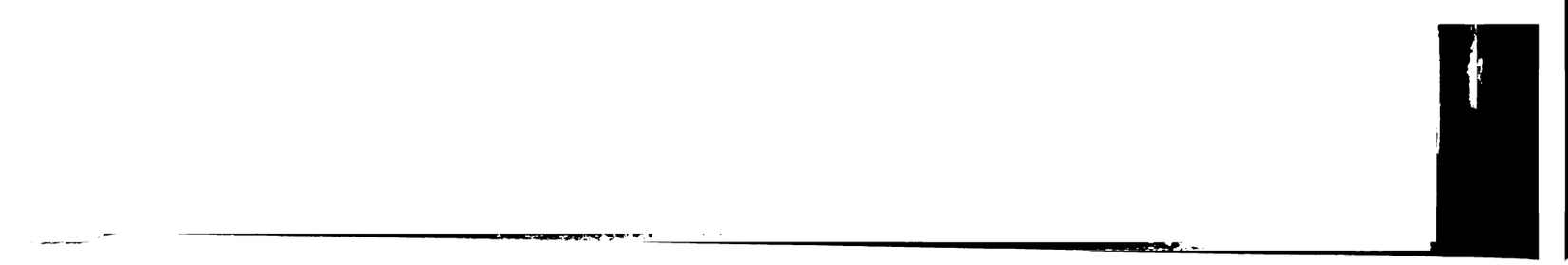
Rational, intellectual type of person. Prefers a good book to going out. Prefers a few close friends, rather than large groups. Tends to be somewhat messy about his/her surroundings. Usually courteous, unless preoccupied. Sometimes not aware of others. . Tends to hold back emotions.
Typical professions: College professors, scientists, engineers



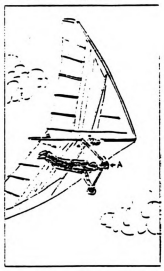


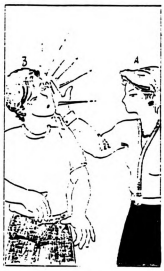
For each of the pictures below, please mark whether or not the behavior of person A fits:

A) Set A
B) Set B
C) Bothe Set A and Set B
D) Neither Set A nor Set B

Set A
Passionate, but moody. Enjoys lots of physical contact. Enjoys large groups of people. Tends to be somewhat neat about his/her surroundings. Outgoing, adventurous and takes risks. Expresses emotions physically.
Typical professions: Pilots, politicians, sports professionals

Set B
Rational, intellectual type of person. Prefers a good book to going out. Prefers a few close friends, rather than large groups. Tends to be somewhat messy about his/her surroundings. Usually courteous, unless preoccupied. Sometimes not aware of others. Tends to hold back emotions.
Typical professions: College professors, scientists, engineers





Materials for pilot study 2.

Social Judgments II - Part I

For each of the sentences below please mark how positive or negative you believe the sentence is according to the scale.

A. Very Positive
B. Positive
C. Neutral
D. Negative
E. Very Negative

1. A person is looking at a book.
2. A person is studious.
3. A person presents the seat to another person.
4. A person assists another person.
5. A person respects another person.
6. A person is courteous.
7. A person shakes another person.
8. A person hurts another person.
9. A person disrespects another person.
10. A person is hostile.
11. A person slaps another person.
12. A person resents another person.
13. A person is ill-tempered.
14. A person is holding the door for another person.
15. A person is teaching.

A. Very Positive
B. Positive
C. Neutral
D. Negative
E. Very Negative

16. A person is educated.

17. A person punches another person.

18. A person injures another person.

19. A person dislikes another person.

20. A person is aggressive.

21. A person shoves another person.

22. A person hinders another person.

23. A person is mad at another person.

24. A person is talking with another person.

25. A person comforts another person.

26. A person feels sorry for another person.

27. A person is empathetic.

28. A person is sawing a piece of wood.

29. A person is handy.

30. A person is walking past another person.

31. A person is cold hearted.

32. A person is looking away from another person.

33. A person ignores another person.

34. A person is rude.

A. Very Positive
B. Positive
C. Neutral
D. Negative
E. Very Negative

35. A person holds another person.

36. A person comforts another person.

37. A person feels warmly toward another person.

38. A person is caring.

39. A person dances.

40. A person is active.

41. A person is indifferent to another person.

42. A person is unfeeling.

PLEASE DO NOT CONTINUE

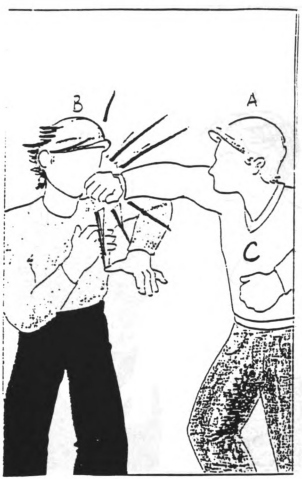
UNTIL INSTRUCTED

Social Judgments II - Part II

In a previous experiment people were tested on their perceptual choices for optical illusions. The study participants were then observed in various settings for a month. A connection was found between perceptual mind sets and behavior. Your task in part two of this experiment involves describing the behavior of perceptual divergents and perceptual convergents. You will be presented with drawings that depict the behaviors of the previous participants and series of sentences that describe the behavior. Your task is to pick the sentence that best describes the behavior.

In the drawings all protagonists are called person A.
Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

You may now turn the page and begin part II.



Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A punches person B.

2. A injures person B.

3. A dislikes person B.

4. A is aggressive.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

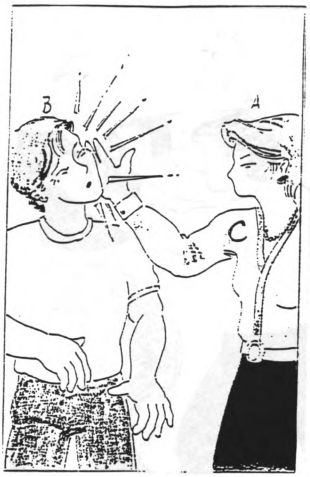
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A shakes person B.

2. A hurts person B.

3. A disrespects person B.

4. A is hostile.



Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A slaps person B.

2. A hurts person B.

3. A resents person B.

4. A is ill-tempered.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A shoves person B.

2. A hinders person B.

3. A is mad at person B.

4. A is aggressive.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

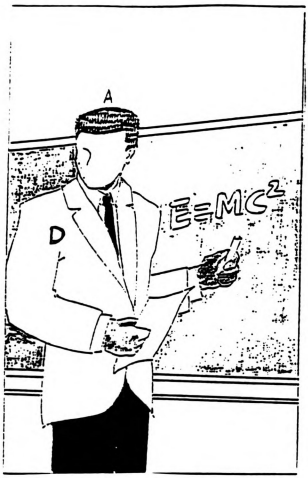
Please choose the word that best describes the behavior of
person A in the picture above for each of the following sentences.

1. A is looking at a book.

2. A ignores person B.

3. A disrepects person B.

4. A is discourteous.



Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is teaching.

2. A is educated.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is walking past person B.

2. A ignores person B.

3. A is indifferent to B.

4. A is unfeeling.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is looking at a book.

2. A is studious.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A dances.

2. A is active.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

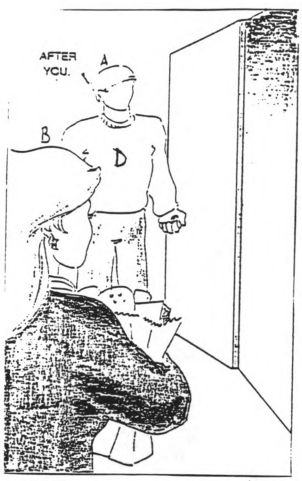
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A presents the seat to person B.

2. A assists person B.

3. A respects person B.

4. A is courteous.



Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

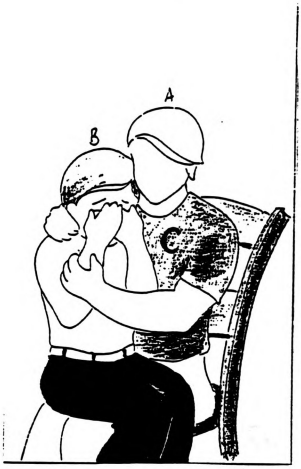
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is holding the door for person B.

2. A assists person B.

3. A respects person B.

4. A is courteous.



Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

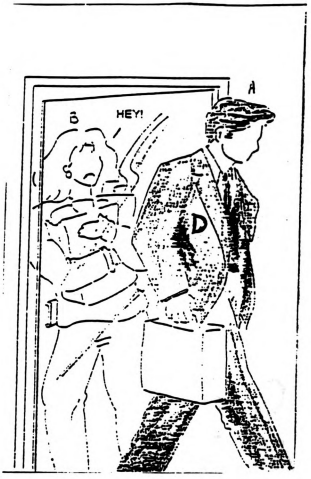
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A holds person B.

2. A comforts person B.

3. A feels warmly toward person B.

4. A is caring.



Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is walking past person B.

2. A hinders person B.

3. A disrespects B.

4. A is cold hearted.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is looking away from person B.

2. A ignores person B.

3. A disrespects person B.

4. A is rude.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is sawing a piece of wood.

2. A is handy.

Perceptual divergents will have a capital letter D on their clothing.
Perceptual convergents will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of
person A in the picture above for each of the following sentences.

1. A is talking with person B.

2. A comforts person B.

3. A feels sorry for person B.

4. A is empathetic.

Appendix B - Materials for main experiment

EXPERIMENTAL INSTRUCTIONS

General Overview, to be read to subjects at the start of each session:

Today's experiment concerns perceptual mind sets and how people of different mind sets perform on various psychological tasks. You will be given a test to determine your perceptual mind set. Once we score your test you will be told whether you are a perceptual adapter or a perceptual challenger. Each person will be given a 3x5 index card with an experimental code number on it, you will be asked to record that number on all the answer sheets used for today's experiment.

You will be given a visual acuity test to determine your perceptual mind set.

We will put your experimental code on the chalk board, then write your group designation next to it after we score your test. You will then be given a series of tasks to complete. Past research has shown that being a perceptual adapter or a perceptual challenger is related to personality and behavioral characteristics. We are interested in the differences between adapters and challengers on today's tasks.

The first thing I will hand out is a consent form, please read the form and if you agree to participate in today's experiment sign, date and put your student number at the bottom.

Handout the consent forms, when signed collect the forms and hand out the 3x5 cards with the experimental code numbers. Before handing out the visual acuity test with the small answer sheets, please say:

The visual acuity test is a timed test, you will have two minutes to answer all the questions. Please do not begin the test until told to do so.

Hand out materials for VAT: pencils, answer sheets, and booklets. While handing out materials say:
Again, please do not begin the test until told to do so. When you receive your answer sheet, please put your experimental code number on the answer sheet in the grid marked "PID". Please darken in the circles beneath each of the numbers in your code. The test is timed, again do not begin until told to do so.

Once all the materials are handed out, say:
This is a timed test, you will have two minutes to complete the test. When I say "GO" you may begin. When time is up
I will say "STOP" and you must put your pencil down and close your booklet. I will then come around and collect your answer sheet and booklet.

Start the test by saying: GO
Time the test for two minutes, at the end of two minutes, end the test by saying: STOP

Then say to subjects:
Please sit quietly until I have finished scoring your Visual Acuity Test.

Take the completed VAT answer sheets and "score" them using the punched "answer sheet." Once you score an answer sheet, find the experimental code number on the prepared assignment list and write down the group name on the bottom of their answer sheet. Do this for all answer sheets. When all answer sheets have been scored, put the experimental codes on the chalkboard with the subject's group designation next to the code. Then say to subjects:
Please note your experimental code and write your group designation on your experimental code card. You will now be given a series of tasks to complete. Please read all instructions carefully. If the instructions are not clear please, raise your hand and I will come around to answer your question.

The experimenter will then hand out the psycholinguistic task booklet and answer sheets. Then say:

Please read the instructions carefully before beginning the tasks. Please be sure to write your experimental code number on the answer sheet in the space marked "PID." Please do not make any marks on the experimental booklet, mark all answers on the answer sheets provided. There is an information survey near the end of the booklet when you reach these questions, simply continue marking on the answer sheet to record your answers. Once you have finished please put your pencil down, and close your booklet. Once you have finished, please bring all your materials to the front. Once you turn in all the materials you may bring your experimental card to the front to be stamped. If you would like to learn more about today's experiment, you are invited to stay and listen to a short debriefing tape.

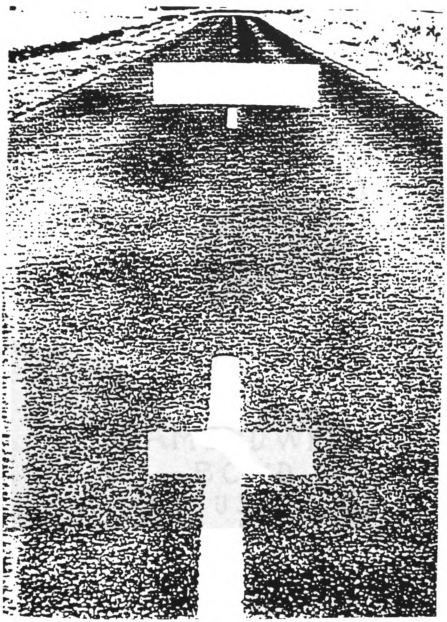
When people bring their materials to the front put everything into the folder marked completed materials. As you stamp their cards give them a participant information sheet and thank them for their participation. For those that wish to stay and listen to the tape play it for them. When they have listened to the tape please say:

Thank you for your conscientious participation in today's experiment. We request that you not discuss your participation in today's experiment with others who may participate at a later date. This will help insure that the results of today's experiment remain meaningful and useful.

VISUAL ACUITY TEST

Instructions: You will be given a series of pictures. Your task is to answer questions about the pictures. Please turn the page to begin this task.

PICTURE # 1



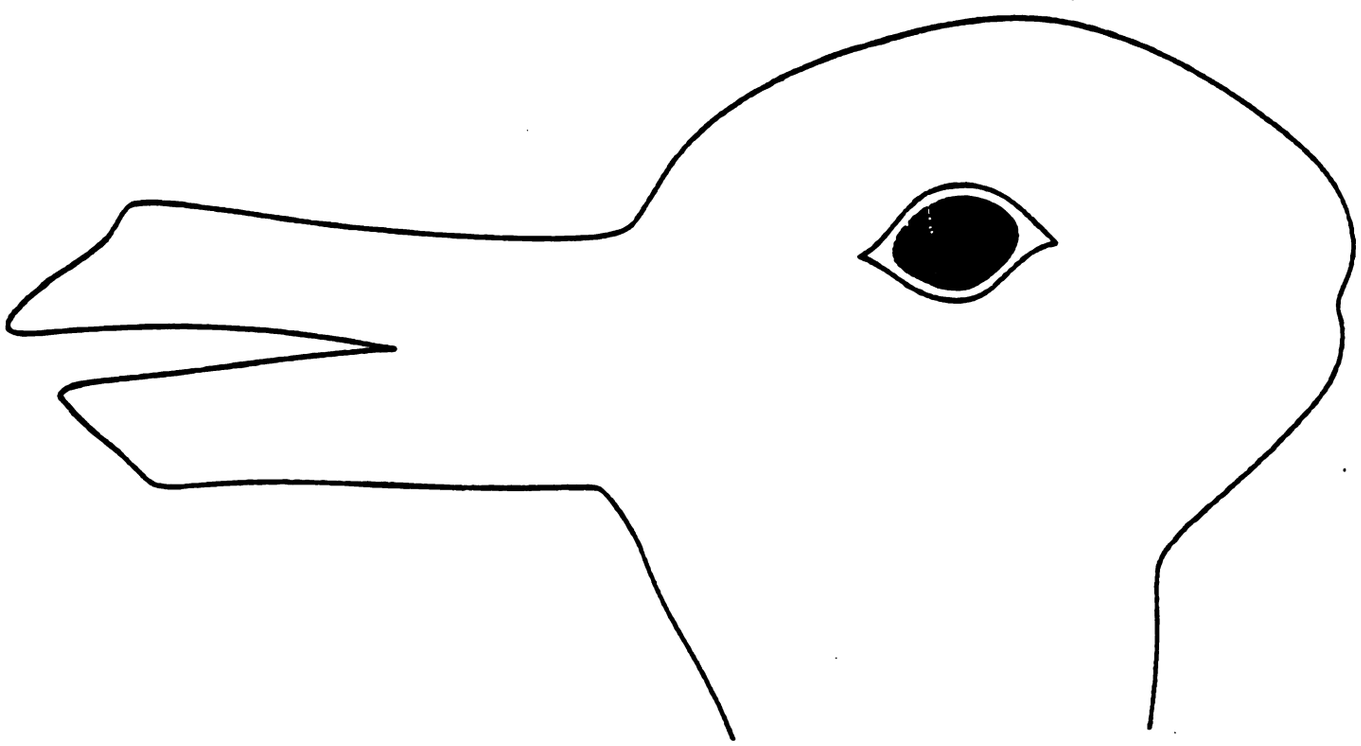
Which one of these two bars is slightly longer than the other?

A. Top Bar
B. Bottom Bar

PICTURE # 2

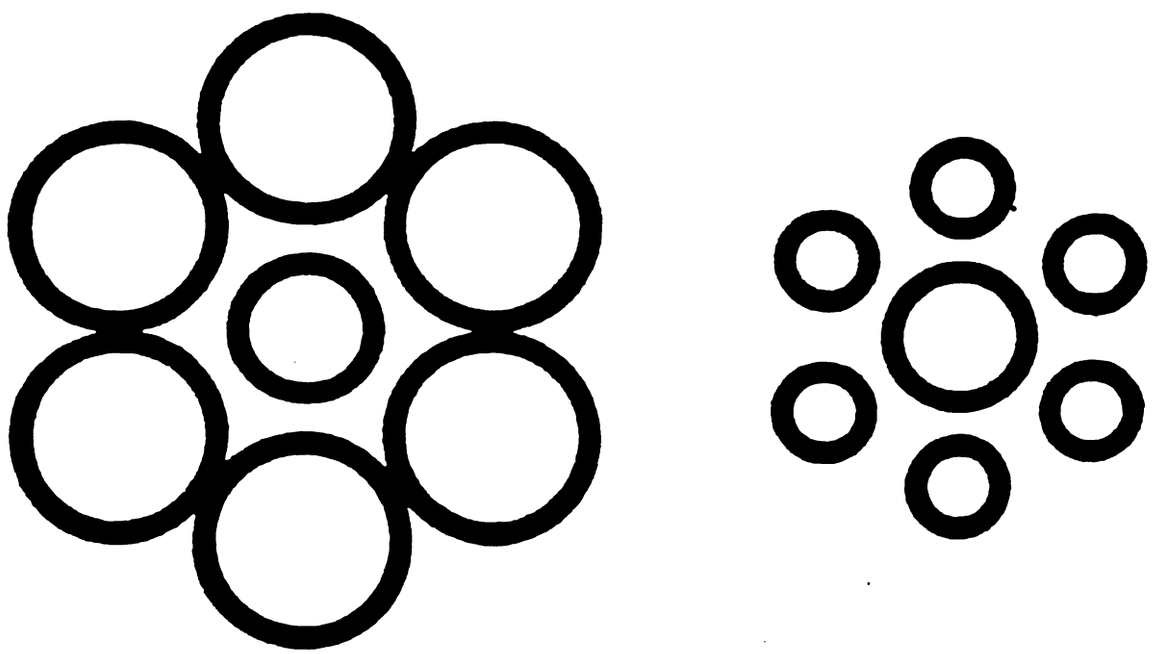
Do you see an older woman or a younger woman?
A. Older Woman
B. Younger Woman

PICTURE # 3



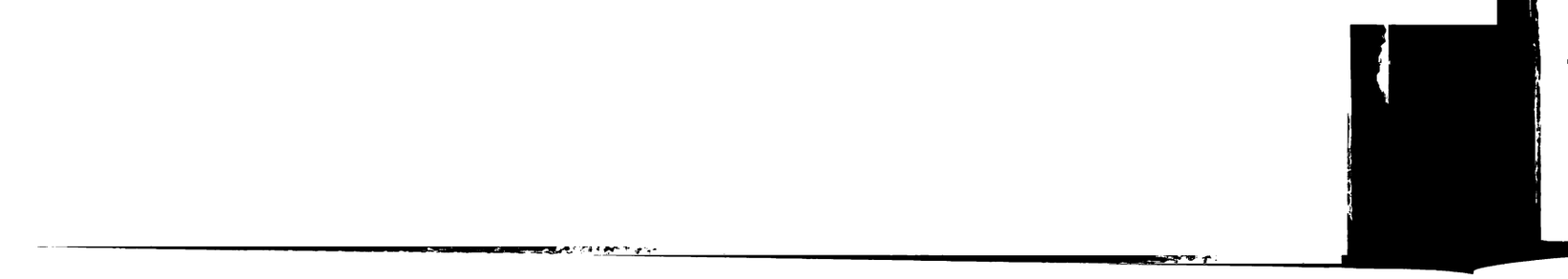
Which do you see?
A. Duck
B. Rabbit

PICTURE # 4



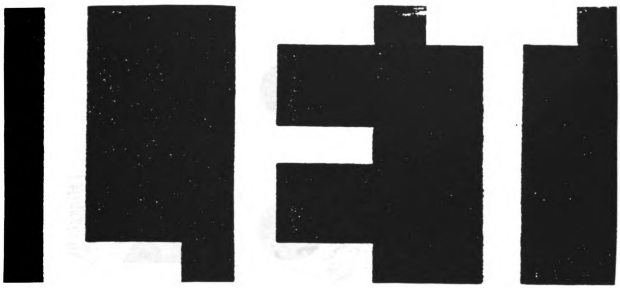
Which figure has the largest middle circle?

A. Figure on the Left
B. Figure on the Right
C. They're Equal



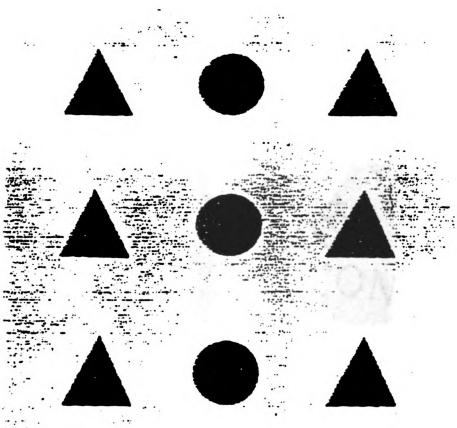
PICT

PICTURE # 5



Which do you see?
A. Four Black Figures
B. Three White Letters

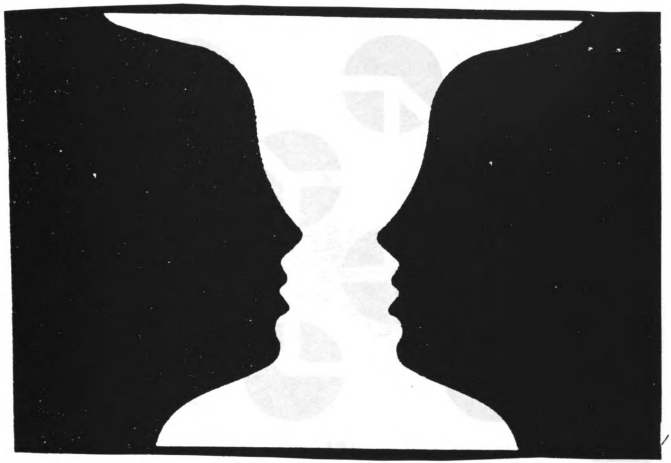
PICTURE # 6



What do you see, three columns or three rows?

A. Three Columns
B. Three Rows

PICTURE # 7

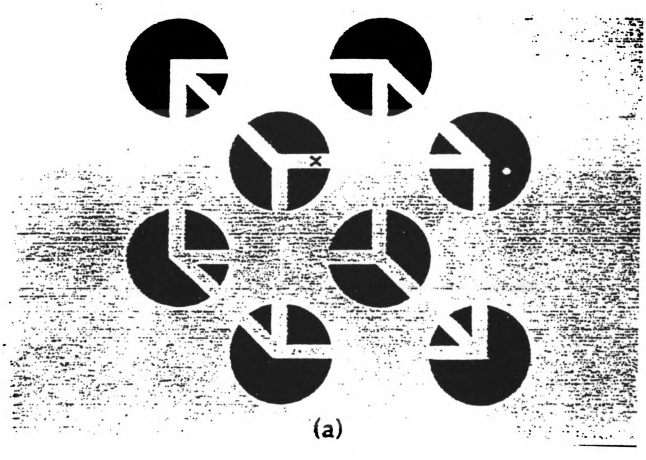


Which do you see?
A. A Vase
B. Two Faces

PICTUR

There
A. Fro
B. Bac

PICTURE # 8



There is an "X" in this cube. Is it in the front edge or in the back edge of the cube?

A. Front Edge
B. Back Edge

THIS COMPLETES
THE VISUAL ACUITY TEST

PLEASE PLACE YOUR PENCIL DOWN AND WAIT FOR FURTHER INSTRUCTIONS.

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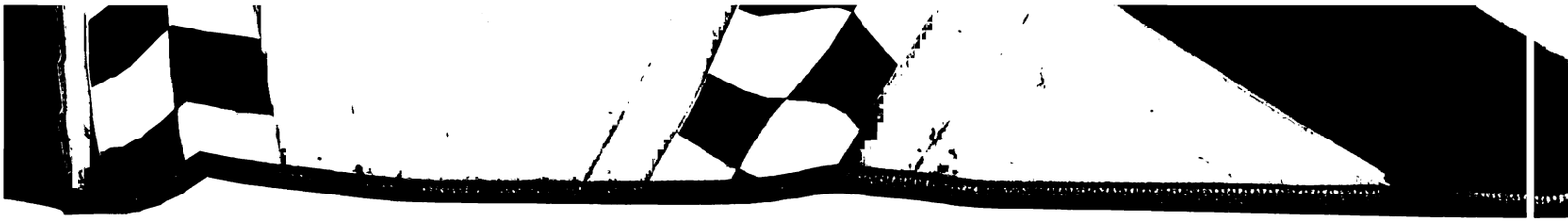


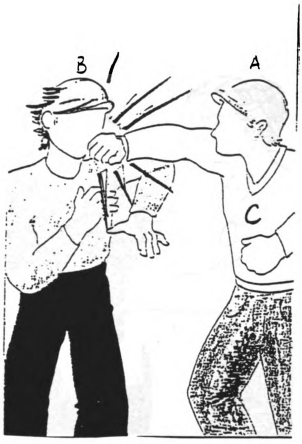
PSYCHOLINGUISTICS TASK

In a previous experiment people were tested using the Visual Acuity Test. Sixteen of these people (eight challengers and eight adapters) kept detailed diaries of their daily activities for a month. Those diaries were later analyzed to determine whether and how perceptual mind set is related to behaviors.

We randomly selected one event from each diary and then had an artist draw a picture depicting that event. Those drawings are contained in this booklet. Beneath each drawing there will be some sentences that describe the drawn event. Your task is to pick the sentence that provides the description of what is occuring in the drawing.

In the drawings all protagonists are called person A.
Perceptual Adapters will have a capital letter D on their clothing.
Perceptual Challengers will have a capital letter C on their clothing.

You may now turn the page and begin the Psycholinguistics Task.



Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A punches person B.

2. A injures person B.

3. A dislikes person B.

4. A is aggressive.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A shakes person B.

2. A hurts person B.

3. A disrespects person B.

4. A is hostile.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

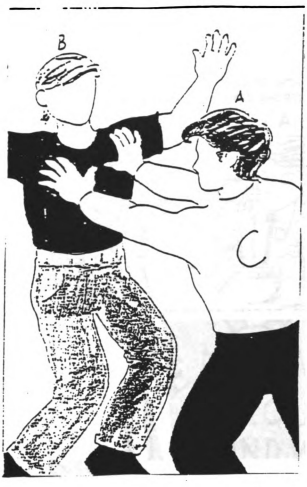
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A slaps person B.

2. A hurts person B.

3. A resents person B.

4. A is ill-tempered.



Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A shoves person B.

2. A hinders person B.

3. A is mad at person B.

4. A is aggressive.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

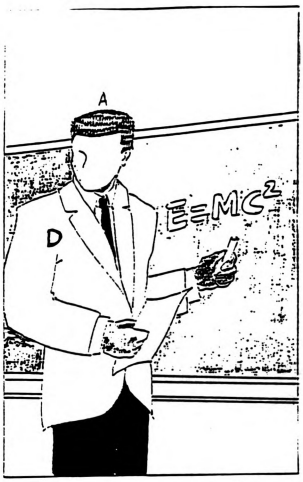
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is looking at a book.

2. A ignores person B.

3. A disrepects person B.

4. A is discourteous.



Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of
person A in the picture above for each of the following sentences.

1. A is teaching.

2. A is educated.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

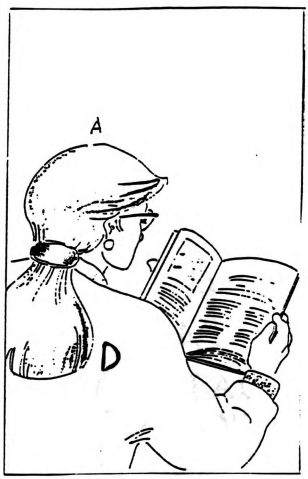
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is walking past person B.

2. A ignores person B.

3. A is indifferent to B.

4. A is unfeeling.



Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is looking at a book.

2. A is studious.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A dances.

2. A is active.

123

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

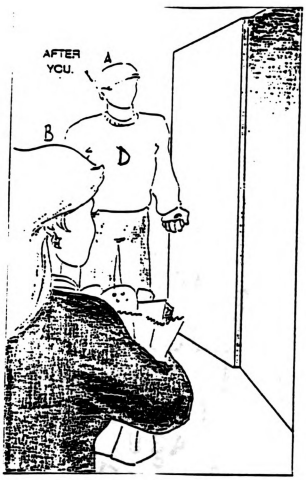
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A presents the seat to person B.

2. A assists person B.

3. A respects person B.

4. A is courteous.



Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

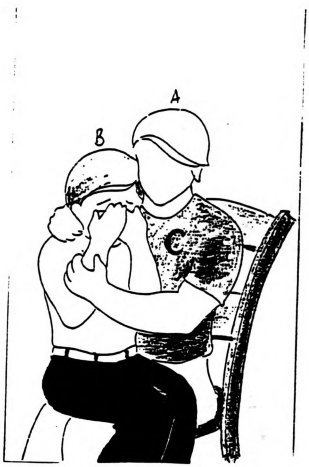
Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is holding the door for person B.

2. A assists person B.

3. A respects person B.

4. A is courteous.



Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A holds person B.

2. A comforts person B.

3. A feels warmly toward person B.

4. A is caring.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is walking past person B.

2. A hinders person B.

3. A disrespects B.

4. A is cold hearted.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is looking away from person B.

2. A ignores person B.

3. A disrespects person B.

4. A is rude.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is sawing a piece of wood.

2. A is handy.

Perceptual adapters will have a capital letter D on their clothing.
Perceptual challengers will have a capital letter C on their clothing.

Please choose the word that best describes the behavior of person A in the picture above for each of the following sentences.

1. A is talking with person B.

2. A comforts person B.

3. A feels sorry for person B.

4. A is empathetic.

TRAIT JUDGMENTS

Instructions:

Now that you have some information about the behavior of adapters and challengers, we would like you to rate the two groups on a series of traits. We have found that these perceptual differences are related to behavior and personality. We are interested in whether you believe that adapters and/or challengers possess certain traits.

In the task you will see a trait word and you will be asked how likely it is that an adapter or challenger possesses that particular trait.

For example, you will see:

Rate the likelihood of a perceptual _____ having the following traits.
Choose the answer that best describes whether a perceptual _____ possesses the trait.

1) Tactful

A. very unlikely
B. unlikely
C. neither unlikely nor likely
D. likely
E. very likely

You may now turn the page and begin the Trait Judgment Task.

Rate the likelihood of a perceptual ADAPTER having the following traits.
Choose the answer that best describes whether a perceptual ADAPTER possesses the trait. Use the following scale to mark your answers.
Please mark all answers on the answer sheet provided.

A. very unlikely
B. unlikely
C. neither unlikely nor likely
D. likely
E. very likely

17) Likeable

18) Self confident

19) Intelligent

20) Attractive

21) Competent

22) Secure

23) Successful

24) Well adjusted

Rate the likelihood of a perceptual CHALLENGER having the following traits.
Choose the answer that best describes whether a perceptual CHALLENGER possesses the trait. Use the following scale to mark your answers.
Please mark all answers on the answer sheet provided.

A. very unlikely
B. unlikely
C. neither unlikely nor likely
D. likely
E. very likely

25) Likeable

26) Self confident

27) Intelligent

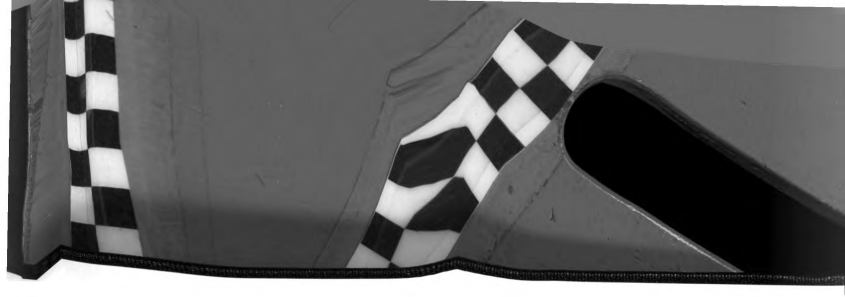
28) Attractive

29) Competent

30) Secure

31) Successful

32) Well adjusted



INFORMATION SURVEY

Instructions: Please answer the questions below on your answer sheet. Your response will aid us in making our analyses.

1. Sex: A) Male B) Female

2. GPA: A) 4.0-3.5 B) 3.49-3.00 C) 2.99-2.50 D) 2.49-2.00
   E) 1.99 or below

3. Ethnicity: A) Caucasian B) African-American C) Hispanic
   D) Asian Pacific American E) Other_____

EXPERIMENTAL PURPOSE

Instructions: On the blank sheet of paper provided to you, please put your experimental number in upper left hand corner of the sheet. Once you have put the number on your sheet please write down in your own words, what you think is the purpose of today's experiment.