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Language in Social Contexts: An Examination of the Effects of the Linguistic Intergroup Bias on Social Categorization and Interpersonal Behavior

Virginia Ann Cylke

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LANGUAGE IN SOCIAL CONTEXTS: AN EXAMINATION OF THE EFFECTS OF THE LINGUISTIC INTERGROUP BIAS ON SOCIAL CATEGORIZATION AND INTERPERSONAL BEHAVIOR

By

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B.A. Saint Vincent College, 1998

A THESIS

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LANGUAGE IN SOCIAL CONTEXTS: AN EXAMINATION OF THE EFFECTS OF THE LINGUISTIC INTERGROUP BIAS ON SOCIAL CATEGORIZATION AND INTERPERSONAL BEHAVIOR

By Virginia Ann Cylke

Thesis Advisor: Dr. Michele G. Alexander

An Abstract of the Thesis Presented
in Partial Fulfillment of the Requirements for the
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This dissertation examines the role of language in social contexts. Specifically, two experiments were designed to extend our understanding of the Linguistic Intergroup Bias (LIB) by elucidating its effects on stereotype application and social behavior. The LIB is the tendency to describe positive in-group and negative out-group behaviors more abstractly than negative in-group and positive out-group behaviors. The first experiment examined the extent to which the LIB augments intergroup categories and perpetuates stereotype use. When asked to match positive and negative behavioral descriptions written at different levels of abstraction to in-group and out-group faces, participants tended to categorize abstract negative behaviors with out-group faces, particularly Asian and Elderly faces. The second experiment examined the propensity for the language of the LIB to lead to behavioral confirmation during interpersonal interaction. Interaction partners depicted in positive or negative and abstract or concrete terms had only a slight effect on participants' perceptions and partners' behaviors. Altogether, the LIB appears to

augment stereotypes but, taken out of the group context, does not clearly confirm

negative behavior. The implications of these studies for theory and practice are discussed.

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INTRODUCTION

Language use in a given society is a fundamental indicator of the society's norms, values, and structure (Giles & Coupland, 1991; Giles & Wiemann, 1987). Language may convey social information both overtly, through direct speech, and subtly, through omission and/or inflection. This information may also be communicated by the use of grammar and word choice. Language can regularly reflect and help to determine the nature of individuals' social perceptions as well as their interpersonal and intergroup relations. Given the potential impact of language on social behavior, the study of linguistics in social interaction has recently gained research attention in social psychology, particularly in the arena of intergroup relations (Barker, Giles, Noels, Duck, Hecht & Clement 2001; Giles & Street, 1985; Hornsey & Gallois, 1998; Willemyns, Gallois, Callan, & Pittam, 1997). Examining linguistics used in intergroup contexts offers insights into a society's implicit expectations and stereotypes about particular social groups, as well as the explicit behavior and treatment toward specific social groups. Additionally, if the language used in intergroup contexts can be better understood, it may also be possible to modify the expectations, stereotypes, and negative treatment of stigmatized social groups through the use of linguistics.

Considerable research has established that language plays a major role in social contexts worldwide (Barker et al., 2001; Giles & Coupland, 1991; Giles & Street, 1985; Hornsey & Gallois, 1998; Willemyns et al., 1997). Much of this work has been conducted in the areas of sociolinguistics, the sociology of language, communication science, and discourse analysis. In recent years, there has been a surge of empirical research on language from social psychologists investigating the cognitive factors mediating language

reception and production, and how language functions as an independent and a dependent variable in social contexts. Social psychologists are also attempting to identify the important role of language in intergroup relations and to describe the functions that language serves to maintain group identity (Barker et al., 2001; Giles & Coupland, 1991).

According to current social psychological thinking, language is perceived as a critical attribute of group membership, a cue for group categorization, an emotional dimension of group identity, and a contributor to group "wholeness" (Barker et al., 2001; Giles & Coupland, 1991; Petronio, Ellmers, Giles, & Gallois, 1998). Among the criteria that an individual must have to be considered a member of a particular ethnic group (e.g., ancestry, religion, skin color) is fluency with a distinct group language or dialect, which is an essential attribute for full and legitimate group membership. Often, individuals who do not speak the base language of their ethnic group are not considered by the group as full members and are assigned incomplete group identities (Giles & Coupland, 1991; Hornsey & Gallois, 1998; Willemyns et al., 1997). Although a clear criterion for group membership, such as skin color, may be met, if the language criterion is not met, group members may not regard the individual as a full-fledged in-group member.

Language is not only used as a means of establishing in-group identity and in-group culture, it is also used as a means of achieving positive distinction from other groups. Linguistic differences between groups act as cues for comparison and tools for positive distinctiveness (Giles & Coupland, 1991; Petronio et al., 1998). As social identities form an important part of an individual's self concept (Giles & Wiemann, 1987; Petronio et al., 1998; Tajfel & Turner, 1979), individuals are motivated by the need to belong to groups that give them positive distinctiveness from other groups, thereby enhancing their

personal self-esteem. In essence, social identity is defined by the outcomes of social comparisons made between groups to which one belongs and groups from which one is excluded. When ethnic group identity becomes important, individuals may use language as a means of making themselves favorably distinct. This practice is known as *psycholinguistic distinctiveness* (Giles, Bourhis, & Taylor, 1977).

Psycholinguistic distinctiveness may be defined by particular accents used by a group, use of colloquialisms that originate from within the group that are understood best by in-group members, or any other particular linguistic nuance that is unique to a group (Giles, 1979; Giles & Coupland, 1991). Recently, psycholinguistic distinctiveness has been more broadly labeled by linguistic researchers as *group communicative distinctiveness* (Giles, Coupland, & Coupland, 1991), to indicate that the process of linguistically distinguishing oneself would operate in intergroup encounters where individuals construe themselves in terms of their social category rather than their individual personalities. In intergroup situations, individuals are likely to take on communicative patterns that are believed to be prototypical of their in-group. By emphasizing one's own social communicative style, in-group members accentuate the differences between themselves and out-group members on a salient and valued dimension of their in-group identity (Giles et al., 1991).

The importance of language in establishing group boundaries and distinguishing between in-groups and out-groups has also been documented (Barker et al., 2001; Giles, 1979; Giles & Coupland, 1991; Giles et al., 1991). Language use is one means of communicating one's preferred social identity and linguistic boundaries tend to be the media for such communication. Linguistic boundaries contain hard and soft linguistic and

nonlinguistic elements. Hard elements include distinctive accents, whereas soft elements include mild accents. It is argued that minorities accentuate in-group communicative markers as a way of solidifying group boundaries in an intergroup encounter when they believe their social identity is weakened or is being made weak by the out-group. For example, a Puerto Rican man may speak with a heavier accent if he believes that his ethnic identity is being threatened in a certain situation. In these instances the individual is using linguistic boundaries to make his/her social identity clear.

Hard linguistic elements may also be used to exclude members from the in-group. Hard linguistic group boundaries make it difficult for an out-group member to pass as an in-group member. For example, if a group of French Canadians were speaking in French, it would be difficult for a non-French Canadian to break that linguistic boundary and to be viewed as an in-group member. Hard group boundaries are desirable because they allow group members to differentiate themselves more clearly on dimensions that are important to their group identity (Giles, 1979; Petronio et al., 1998), and they aid in excluding outsiders from the particular in-group.

Psycholingustic distinctiveness, or group communicative distinctiveness, also allows group members to demonstrate the strength of their group identification to out-groups. When a group member distinguishes him/herself by using in-group language, it permits out-group members to categorize the individual based on distinctive group membership and provides the basis for outsiders to make inferences regarding the personality traits and behavioral dispositions of the individual. Therefore, language may also activate stereotypes and guide perceptual inferences and evaluations of particular individuals (Cote & Clement, 1994; Hamilton, Gibbons, Stroessner, & Sherman, 1992).

Linguistics and Intergroup Stereotypes

As language is important for establishing group distinctiveness and as group distinctiveness is an important component of stereotyping, language may play an important role in activating, perpetuating, and maintaining stereotypes. The relationship between language and stereotyping is a multifaceted one, as the use of each may impact the other. While language may be used to activate group stereotypes in social contexts and to convey well-learned stereotypes, stereotypes may evoke the use of specific language, resulting in stereotype confirmation and further maintenance of stereotypes.

Several researchers have used language, specifically trait descriptors, to activate effectively stereotypes and intergroup biases in participants. Priming studies, for example, indicate that trait descriptors (e.g. old, slow) can impact impression formation (Higgins, Rholes, & Jones, 1977), and can activate behavior consistent with those traits (e.g., aging behavior, Bargh, Chen, & Burrows, 1996). In a series of three priming studies, Bargh and his colleagues (1996) first found that participants whose concept of rudeness was linguisticly primed interrupted the experimenter more quickly and frequently than did participants primed with polite-related stimuli. The second experiment demonstrated that participants primed with stereotypes of the elderly walked more slowly down the hallway when leaving the experiment than a control group who had not been primed with the elderly stereotype. Both experiments used subliminal priming techniques and demonstrated that priming with stereotype-related words had an observable effect on behavior. Additionally, subliminally priming individuals with stereotype-related in-group/out-group pronoun descriptors (e.g. "we" and "they") has resulted in activating stereotypes and demonstrating in-group biases (Perdue, Dovidio, Gurtman, & Tyler,

1990). In a series of three experiments, Perdue et al. demonstrated that positive and negative pronouns perpetuate and possibly transfer in-group related biases to other people. Altogether, participants rated nonsense syllables paired with in-group designated words (e.g., "we") more favorably than those paired with out-group designated words (e.g., "they").

Not only is language used to activate group stereotypes, but language is also used to convey stereotypes. Just as trait terminology appears to capture the fundamental aspects of a perceiver's stereotypic notions, it is also used to transmit a culture's social stereotypes. Since Katz & Braly's (1933) original study on the content of group stereotypes, research interest in trait content has continued (Devine, 1989; Devine & Elliot, 1995). Trait labels are thought to convey a great deal of information, including mental representations of specific experiences with various group members, physical features, occupational and socioeconomic characteristics, and likely behavior patterns (Hamilton et al., 1992). Although not always endorsed, especially by low-prejudiced individuals, stereotypic traits are well-learned and can become automatic (Devine, 1989).

Once stereotypes are well-learned (from a variety of processes, including linguistics), they may be used to guide information-processing and perception during social interaction, even in interpersonal interactions (Hamilton et al., 1992). Interestingly, language plays a major role in stereotype confirmation during interaction and then subsequently in the maintenance of social stereotypes. Three heuristic processes in language have been documented that may contribute directly to stereotype maintenance and to the resistance of stereotype change. Each heuristics process offers a separate and distinct piece of the stereotype maintenance puzzle. The three processes that directly

contribute to the maintenance of stereotypes are: valence, degree of specificity, and level of abstraction.

Valence

The valence of trait concepts assigned to in-groups and out-groups tends to strengthen or confirm stereotypes, thereby rendering disconfirmation of stereotypes unlikely. In general, stereotypic information about one's in-group will tend to be more favorable than stereotypic information about out-groups, as group members tend to assign fewer positive and more negative trait concepts to the out-group (Maass & Acuri, 1996). Only a bit of confirming evidence is needed to maintain a negative out-group stereotype, whereas much disconfirming evidence is required to alter negative out-group stereotypes (Maass & Acuri, 1996). Thus, the negative traits generally contained in out-group stereotypes are easy to acquire and difficult to change. To demonstrate the disconfirmation process, Rothbart and Park (1986) presented participants with a list of favorable and unfavorable trait adjectives. Participants were asked to rate each trait on three dimensions: 1) how easily the participant could imagine behaviors confirming/disconfirming the trait, 2) how frequently occasions arise during normal social interaction that allow for confirming/disconfirming behavioral instances of the traits, and 3) how many confirming/disconfirming behaviors would be required for the participants to disconfirm the trait. The results suggested that few instances were required to confirm unfavorable traits and several instances were required for them to be abandoned.

Degree of Specificity

The degree of specificity of stereotype trait descriptors also contributes to maintaining stereotypes. Some traits describe very specific characteristics (e.g., punctual), whereas other traits describe general characteristics (e.g., lovable). As traits range from specific to broad, they include a wider range of application and become more difficult to disconfirm. Hamilton et al. (1992) have argued that negative characteristics of liked groups and positive characteristics of disliked groups tend to be expressed by narrow, specific trait descriptors. In the same respect, negative characteristics of disliked groups and positive characteristics of liked groups tend to be expressed with general, broad descriptors. Given that broad traits are more difficult to disconfirm than are specific traits, negative out-group and positive in-group characteristics are easily perpetuated; further evidence that linguistic properties serve to maintain group differences.

Degree of Language Abstraction

The third mechanism by which language may contribute to stereotype maintenance is the degree of language abstraction used to describe behavior of in-group and out-group members. Concrete descriptions imply that the behavior is a temporary, passing, isolated behavioral instance, whereas abstract descriptions imply that the behavior is stable and related to internal traits of the actor (Maass & Arcuri, 1996). The language that we use allows conclusions to be drawn about the behavior's locus of causality. For example, if an out-group member physically assaults an in-group member, that behavior will likely be described by in-group members as *aggressive*, an abstract rather than concrete description. Labeling an out-group member's behavior as *aggressive* implies that the behavior stemmed from a stable personality trait of the individual and is

likely to occur again in the future. However, if an in-group member perpetrated the physical assault, in-group members would likely describe the behavior concretely (e.g., hitting *someone*), a specific, isolated behavioral instance that is not characteristic of that in-group member, but merely transitory and not likely to be repeated. Abstract or concrete verbiage used to describe events and behaviors of in-group and out-group members may be biased and may lead to different conclusions drawn about the underlying cause and stability of the behavior. This biased language use may contribute in predictable ways to the resistance of social stereotypes to change (Maass, Salvi, Arcuri, & Semin, 1989).

Linguistic Intergroup Bias (LIB)

Given the important role language plays in fostering and maintaining social identities, positive distinctiveness, clear group boundaries, and out-group stereotypes, it is feasible that language bias is an inherent part of intergroup contexts that serves to ensure intergroup difference and justify negative intergroup behavior. In support of this judgment, Anne Maass and her colleagues (1989) have posited the existence of a *linguistic intergroup bias* (LIB). Maass focuses on the language abstraction heuristic as the primary means of communicating and maintaining stereotypes. According to Maass et al. (1989), existing intergroup biases produce a biased language use, which may contribute further to the maintenance of existing intergroup conflict.

Maass suggests that the same behavior is encoded at varying levels of abstraction, depending on the positive or negative connotation of the behavior and whether an in-group or out-group member performed the behavior. More specifically, the LIB is the tendency to describe or explain negative out-group behaviors and positive in-group behaviors in abstract terms and positive out-group behaviors and negative in-group

behaviors in concrete terms. Consequently, if information encoded at an abstract level is particularly resistant to disconfirmation, the LIB should maintain intergroup bias and stereotypes.

Maass's conceptualization of the LIB is based on a psycholinguistic model of interpersonal verbs posed by Semin and Fiedler (1992). According to Semin and Fiedler, one of the most prominent features of interpersonal verbs is that they allude to causal origin. Some verbs used in simple sentences that follow the pattern of subject-verb-object (e.g., help, hurt, cheat), lead to the inference that the sentence subject caused the interpersonal event. For example, the sentence, *Jamie hurts Rob*, leads to the inference that Jamie is a hurtful individual. Other types of interpersonal verbs lead to the inference that the subject object caused the event (e.g., like, hate, respect). For example, the sentence *Kate likes Marvin*, leads to the inference that Marvin, the sentence object, is a likable person. Along with identifying cause, it is possible that interpersonal verbs have an effect on other areas of interpersonal relationships. These interpersonal verbs may indicate how individuals perceive each other, feel about one another, and interact with one another.

Semin and Fiedler (1992) developed a taxonomy of interpersonal verbs and adjectives known as the Linguistic Category Model. The Linguistic Category Model consists of five levels, each representing a different type of linguistic device (See Table 1).

Table 1. The Classification of Linguistic Terms

Category	Examples	Features
Descriptive Action Verbs (DAV)	push, tug	Reference a single behavioral event with a definite beginning and end.
Interpretative Action Verbs (IAV)	help, annoy	Reference a single behavioral event with a positive or negative connotation.
State Verbs (SV)	hate, admire	Refers to the affective consequences of an action.
State Action Verbs (SAV)	surprise, bore	No reference to concrete action, but to states evoked in the object of the sentence
Adjectives (ADJ)	honest, aggressive	Highly abstract person disposition.

First, descriptive action verbs describe a single, particular event with a definite beginning and end with no positive or negative valence (e.g., push, tug). The interpretation of descriptive action verbs is found mainly in the context of the situation. For example, the sentence, *Forrest pushes Geoff,* could be interpreted in two ways and depends on the context. Forrest may have pushed Geoff to save him from being hit by oncoming traffic or he may have deliberately pushed him into oncoming traffic. Descriptive action verbs are highly dependent on the context of the situation in which they occur. Second, interpretive action verbs subsume a variety of different possible actions and have a positive or negative connotation (e.g., help, cheat, bother). Interpretative action verbs serve as a frame for diverse behaviors. For example, the sentence *Randall helps Hanna* implies that Randall could have expressed a variety of different types of helping. He may have helped Hanna mop up spilt milk or helped her study for a test. Third, state verbs refer to emotional states and other unobserved psychological properties without a beginning or an end (e.g., like, hate, desire). Fourth, state action verbs are similar to state verbs, but they refer to an implicit action frame by the subject that leads to the experienced state. Thus, state action verbs evoke the emotion due to an action by the subject (e.g., surprise, bore). State action verbs identify the affective consequences of an action as opposed to the qualities of the actual action. For example, the sentence, *Joshua amazed me* implies that something that Joshua did amazed me. The action actually evoked the emotion of amazement; the amazement did not exist prior to Joshua's behavior. Finally, adjectives refer to highly abstract personal dispositions that are highly interpretive and generalizable (e.g., aggressive, promiscuous).

The sentence, *Sheri is impulsive,* implies that, in a variety of situations and contexts, Sheri is likely to make spontaneous, rash decisions. It implies that she has the internal personality characteristic of impulsivity.

The linguistic devices of Semin and Fiedler's (1992) taxonomy fall on a continuum from concrete to abstract. At the most concrete end of the continuum are descriptive action verbs, providing a specific description of an observable event. At the most abstract end of the continuum are adjectives, which are subject to the most inference in interpretation. Adjectives provide an explanation of a subject's general tendency that holds across time and situation. Although descriptions at various levels of abstraction might be equally adequate portrayals of a given behavior, they differ in their psychological implications. In particular, abstract terms such as adjectives imply temporal and cross-situational stability, hint at the high probability of future behavior, and are perceived to reveal more about the actor than the situation (Maass et al., 1989).

Borrowing from Semin and Fiedler's (1992) linguistic taxonomy, Maass and her colleagues have investigated the use of concrete and abstract language in intergroup settings. In Maass' (1989) original experiments designed to test the linguistic intergroup bias, she predicted that individuals encode and communicate positive in-group and negative out-group behaviors at a higher level of abstraction than negative in-group and positive out-group behaviors. It was reasoned that the same socially desirable behavior would be described with a higher level of abstraction when displayed by an in-group rather than an out-group member. Alternatively, it was hypothesized that a socially undesirable behavior would be described with a higher level of abstraction when performed by an out-group than an in-group member. In a series of two experiments,

participants from real-world social categories were exposed to a sequence of behavioral episodes presented in single frame cartoons, in which members of either the in-group or the out-group performed socially desirable or undesirable behaviors (e.g., helping, littering). In both experiments, participants were asked to encode the information and describe the protagonist's behavior in the scene. In the first experiment, participants gave descriptions by selecting one of four response alternatives corresponding to four levels of abstraction in Semin and Fiedler's Linguistic Category Model. In the second experiment, participants provided a short, open-ended description of each scene. The results from both experiments demonstrated that individuals do indeed encode negative out-group and positive in-group behaviors at a higher level of abstraction than positive out-group and negative in-group behaviors. Additionally, the more negatively an out-group behavior is perceived, the higher the level of abstraction used to describe the behavior. Although desirable in-group actions were also encoded at a slightly higher level of abstraction than negative in-group actions, the LIB was most pronounced for out-group actions. In a third experiment, Maass and her colleagues demonstrated a linear relationship between linguistic abstraction, dispositional information about the actor, and the stability of the behavior. Behaviors described at a higher level of abstraction were perceived to reveal considerable information about the protagonist and to have a strong likelihood of re-occurring. Altogether, high levels of linguistic abstraction used in descriptions of out-group members' negative behavior helped establish that the negative behaviors were actually stable aspects of the out-group members' personality, subtly perpetuating already existing stereotypes and stereotypic expectations.

Since the discovery of the existence of the LIB, the relationship between the bias and its resulting perceived locus of causality and stability has been studied further. Arcuri, Maass, and Portelli (1993) liken the concrete communication of verbs to situational attributions and abstract communication of verbs to internal or dispositional attributions. That is, when behaviors are described with concrete terms, it is similar to making a situational attribution for the behavior; when behaviors are described abstractly, it is similar to making a dispositional attribution.

In linking attributions and levels of abstraction, the findings related to the LIB may be interpreted in terms of the more general group serving attribution bias (Maass et al., 1993). The group serving attribution bias stems from what is known as the self-serving attribution bias. The self-serving bias is the tendency to ascribe positive outcomes in one's life to stable, internal traits and negative outcomes to unstable, external factors in the environment. The bias serves to maintain a positive image of the self. At the group level, the group-serving attribution bias is the tendency to attribute negative out-group and positive in-group behaviors to personal causes that are internal to the actor and to attribute positive out-group and negative in-group behaviors to situational or external causes. Similar to Pettigrew's (1979) ultimate attribution error, the group-serving bias is used with a more specific aim. The group-serving attribution bias refers only to the locus of attributions (internal/external vs. dispositional/situational). To the extent that undesirable out-group and desirable in-group behaviors are described in abstract terms, dispositional attributions are given to such behaviors. To the extent that desirable out-group and undesirable in-group behavior is described in concrete terms, situational attributions are given to explain such behavior. Members of a given in-group may

describe undesirable out-group and desirable in-group behaviors in abstract terms to imply that a dispositional attribution underlies the behavior.

Arcuri et al. (1993) investigated the direct relationship between the LIB and the implicit causality and constancy of verbs used to explain events. By extending previous findings beyond mere behavioral description to examine causal explanations for behavior, the researchers could apply the group-serving attribution bias to test for the existence of the LIB in casual attributions for group members' behavior. Whereas the LIB has been confirmed repeatedly on description tasks (i.e., tasks that merely require the individual participant to describe behavior), predictions regarding the LIB using the premise of the group-serving attribution bias may be confirmed for those tasks that elicit causal thinking (i.e., tasks that require the individual to explain the reasons for the behavior). For example, with a description task, participants observe an in-group member hitting an out-group member, and then are asked to describe the behavior. With a causal task, participants observe the same behavior and provide an interpretive explanation for why the behavior occurred. Arcuri et al. (1993) presented participants with examples of successful and unsuccessful behaviors by in-group and out-group actors and asked participants to explain what an individual did to bring about the behavior described in the episode. Participants selected one of two explanations for each episode; one in the form of a concrete, interpretive action verb (high actor causation, low stability), the other in the form of an abstract state verb (low actor causation, high stability). The findings indicate that participants used more concrete verbs than abstract verbs when explaining positive out-group and negative in-group behaviors.

Further evidence for the LIB is provided by Cole and Leets (1998) who examined the linguistic masking devices used in an intergroup context. The authors suggested that group members use subtle language variations to enhance the in-group and to create group enhancing versions of reality when describing an intergroup situation. Certain linguistic devices may be used to demonstrate in-group favoritism, maintain and transmit social stereotypes, and denote the presence of prejudiced attitudes. By asking African American and Caucasian participants to describe an interracial encounter between a police officer and a supposed suspect, Cole and Leets found that linguistic devices help maintain positive in-group attitudes and negative out-group attitudes. Specifically, African American participants were more likely to use nominalization, the transformation of a verb clause to a noun or noun phrase, when describing police brutality committed by a Caucasian than an African American police officer (e.g. "man gets beaten by detective" into "injustice to African American citizen"). Nominalization implies that negative behaviors of out-group members are stable and enduring personality characteristics. Additionally, the researchers found that participants were more likely to use generalization to describe negative behaviors of out-group members than in-group members. Generalization is a linguistic device that conveys continuity by increasing the generalization of the situation (e.g. "Another officer strikes again"). Altogether, these findings are consistent with previous research on the LIB that suggests that individuals will use language that implies that negative out-group and positive in-group behaviors are likely to occur in other situations as well and are not limited to the current context.

Interestingly, the use of the LIB is not limited to adult populations, but may have a developmental progression that is initiated in early childhood. Werkman, Wigboldus, and

Semin (1999) explored the LIB and its emergence in childhood, proposing that children strategically use abstract and concrete terminology during person perception increasingly with age. The proposition was based on developmental evidence that children's ability to understand and use abstract language emerges over time, usually by age eight. Werkman et al. (1999) specifically hypothesized that children would describe the desirable behavior of a close friend and the undesirable behavior of an enemy in a more abstract manner than the reverse. The use of the LIB was expected to increase with age. As expected, participants at all ages (8-19 years old) engaged in the LIB and this effect increased substantially over time. In a second experiment, Werkman and colleagues investigated the impact of biased language use on children's inferences. All children (ages 5-11) assumed that a behavior is much more likely to be repeated if the behavior is described at a high compared to a low level of abstraction. These results demonstrate that children are increasingly sensitive to abstract or concrete language and are capable of strategically using language to communicate in-group and out-group stereotypes. It is also clear that language biases do have implications for attributions that children make about other's behavior, thereby perpetuating intergroup bias developmentally. Therefore, the likelihood of stable expectancies in the realm of out-group and in-group behavior increases with age.

Theoretical Explanations for the LIB

Given strong empirical support for the LIB and for the existence of the LIB in a variety of different intergroup settings that include gender (Fiedler, Semin, & Finkenauer, 1993), town of residence and nationality (Maass & Acuri, 1992), sport and school affiliation, and province location (Acuri et al., 1993), the antecedents to and consequences of the phenomenon might be explored further to add to the understanding

that language plays in perpetuating stereotypes and intergroup conflict. Maass and her colleagues (1996) contend that there are two possible mechanisms that underlie different language use in intergroup contexts: one motivational, the other cognitive. Both views have roots in theory and both are noteworthy. The motivational perspective explains that the LIB is driven by an in-group protective motive and is linked to social identity theory (Tajfel & Turner, 1979). The basic tenet of this perspective is that the LIB serves to enhance or protect one's social identity. Specifically, concrete descriptions disassociate the actor from the behavior by indicating that the behavior is a one-time action; abstract descriptions imply that the behavior is indicative of a stable property of the actor. In these terms, the LIB helps to portray the in-group in a favorable light while inadvertently derogating the out-group. By indicating that positive in-group behaviors are stable personality characteristics that are likely to reoccur in the future and that negative in-group behaviors are temporary events that are not likely to reoccur, positive in-group identity is maintained. In contrast, by indicating that negative out-group behaviors are stable personality traits that are likely to occur in the future and that positive out-group behaviors are temporary behavioral instances, positive distinction from these out-groups can be achieved. By helping to maintain a positive image of one's in-group and a negative image of one's out-group, the LIB enhances one's self-esteem (Maass et al., 1996).

A second, more social-cognitive mechanism that contributes to the LIB involves expectancies for in-group and out-group behavior. From this perspective, the LIB results because people come to expect more desirable behaviors from in-group than out-group members and more negative behaviors from out-group than in-group members. Expectancy-consistent behavior should be described in abstract terms because such

behavior is considered reliable and stable. Expectancy-inconsistent behavior should be described in concrete terms because it is considered short-lived and atypical. The different behavioral expectancies that people hold for in-group and out-group members lead to the use of abstract or concrete verbiage when describing or accounting for certain behaviors or events. Maass, Milesi, Zabbini, and Stahlberg (1995) found evidence to support this expectancy-based cognitive explanation. In a first experiment designed to assess language use in a setting where two groups hold stereotypic beliefs about one another, participants from mutually exclusive social groups (Northern and Southern Italians) were exposed to vignettes in which in-group and out-group members engaged in positive or negative behaviors. Positive behaviors included hospitality, cleverness, and warmth, and negative behaviors included intrusiveness, materialism, and intolerance. Half of the behaviors represented "typical" behaviors of the out-group and the other half represented "typical" behaviors of the in-group. For example, for the positive characteristic of hospitality: This person, a southerner, (a) has prepared a room for a friend (Direct Action Verb), (b) helps a friend (Interpretive Action Verb), (c) worries about a friend (State Action Verb) (d) is hospitable (Adjective). Participants were asked to select a response that best described the presented scene. Response options varied from concrete to abstract. The researchers found that regardless of the positive or negative valence of the behavior, expectancy-congruent behaviors were described more abstractly than expectancy-incongruent behaviors. In a second experiment designed to investigate biased language at the interpersonal rather than the group level, participants viewed a series of cartoons in which the protagonist's group status was not defined; participants

were asked to imagine that the protagonist was either their best friend or their worst enemy. Further support for the expectancy-based explanation was found.

The main difference between the motivational and social-cognitive approaches is that the social-cognitive perspective predicts abstract language use for expected behaviors and concrete language use for unexpected behaviors regardless of the positive or negative valence of the behaviors. The in-group protective motivational perspective predicts abstract language use for positive in-group behaviors and negative out-group behaviors, regardless of expectations. When taking a motivational perspective, it is assumed that the LIB is driven by in-group protective motives and serves to enhance or protect one's social identity. To this extent, the LIB serves the same function as other strategies of in-group favoritism (e.g., discriminatory reward allocations and measures of intergroup differentiation versus cooperation). From the cognitive perspective, the LIB derives from differential expectancies, with members of a given group usually expecting more desirable and fewer undesirable acts from in-group than from out-group members. It is important to note that in many intergroup contexts the two models (motivational and cognitive) will be working together simultaneously because people tend to have negative expectations for out-groups and positive expectations for in-groups. However, in situations where groups hold highly differentiated stereotypes about one another, the models allow for more distinct predictions.

Although Maass et al. (1995) found evidence suggesting that the LIB is driven by expectancies and that group motivation is not always necessary, their methodology prevented them from eliminating the relevance of group motivation altogether. In conditions of intergroup threat or conflict where in-group protective motivation might be

activated, motivational concerns might be relevant and more important than cognitive expectancy mechanisms. Borrowing from social identity theory (Tajfel & Turner, 1979), Maass et al. (1996) applied a motivational framework to examine social identity factors (i.e., threats to in-group identity) that may heighten the use of the LIB as an in-group protective strategy. According to social identity theorists, there are several conditions that motivate individuals to utilize in-group protective strategies. Individuals will be motivated to protect their in-group when 1) their social identities are threatened or de-valued, 2) when they belong to groups that have illegitimately low status, 3) when there are no overlapping social categories or when an individual does not have dual group allegiance, and 4) when the intergroup setting is highly competitive.

In two experiments, Maass et al. (1996) examined the impact of these first three factors (i.e., threatened identity, illegitimate low status, and overlapping categories) on the LIB. In the first experiment, active environmentalists and hunters were introduced to a temporary threat to in-group identity via an alleged derogatory (vs. friendly) message from the out-group. Specifically, participants read a statement that was supposedly written by an out-group member that took either a hostile or a friendly tone about the participant's in-group. The manipulation was designed to increase in-group protection motivation without affecting long-term beliefs about in-group and out-groups. After reading the statement, participants were shown eight cartoons, one-half with in-group and one-half with out-group members engaged in either positive or negative behaviors. More specifically, half of the cartoons depicted hunters and the other half depicted environmentalists, engaging in positive behaviors such as dressing well and studying, and negative behaviors such as littering, drinking, and smoking. As in previous research,

response alternatives were provided according to Semin and Fiedler's (1992) language abstraction model and participants chose the response choice that they believed best described the cartoon (e.g., this person is a hunter and a member of a hunting organization: a) picks up paper (DAV), b) cleans up the wood (IAV), c) respects nature (SV), or d) is conscientious (ADJ)). Consistent with prior research, the basic effect was supported with overall positive in-group and negative out-group behaviors described more abstractly than negative in-group and positive out-group behaviors. More importantly, this bias was pronounced in the in-group threat condition. The LIB was also shown to contribute directly to self-esteem maintenance; the more likely one was to use the LIB, the better post-experimental self-esteem one had, lending further evidence for the LIB to provide self-enhancing motivation.

In a second experiment, Maass et al. (1996) tested the motivational perspective in a different intergroup context and included two additional factors that were expected to affect in-group protective motivation; the relative status of the in-group and the presence or absence of overlapping categories. It is noteworthy that in the group setting used in Experiment 2, positive and negative stereotypes exist for both groups; therefore typicality and positivity of expectancies were present, which allowed for comparisons between the motivational and the cognitive perspectives. The LIB was strongest when intergroup hostility was induced between the two groups, but non-existent when a superordinate in-group and a common out-group were made salient. For example, the negativity between Northern and Southern Italians allows for in-group/out-group distinctions within Italians (i.e., Northern vs. Southern). However, when a more inclusive in-group, such as "Italians", is made salient and a different out-group, such as Swiss, is made relevant, then

the in-group/ out-group distinctions within Italians disappears and is replaced by a new cohesive in-group. Additionally, low status groups used the LIB more than high status groups. Altogether, the LIB is used most by those group members who have high self-protective motivations.

Most likely, both motivation and cognition work together in some contexts and independently in others. Whereas previous studies (Maass et al., 1995) have demonstrated that stereotypical expectancies are enough to produce language biases, the results of these experiments suggest that motivational processes may also play an important role in language biases. It is possible that intergroup threat may not only enhance in-group protective motivations, but also may enhance the expectations about in-group and out-group behaviors. Whichever model, motivational or cognitive, serves as the underlying mechanism of the LIB, there is no denying that the LIB is a well-documented phenomenon with implications for daily interactions and future intergroup relations.

LIB, Interpersonal Expectancies, and Stereotype Maintenance

As previously noted, language abstraction plays a potentially important role in perpetuating negative interpersonal expectations. While it has been suggested that the LIB may result from pre-existing, negative intergroup sentiments, its use may also further exacerbate such sentiments. When receiving abstract descriptions, an individual is expected to form the impression that the act reflects an enduring and stable behavioral tendency of the actor and that the actor will behave in a similar manner in the future. In the original work on the LIB, Maass et al. (1989) presented participants with sentences used to describe cartoon scenes. Participants were asked to rate how much information each phrase provided about the actor and how likely they thought it was that the

protagonist would display similar behavior in the future. The ratings of relative informativeness and likelihood of repetition were based solely on the level of language abstraction. That is, results indicated that the greater the level of abstraction, the more information the sentence was said to reveal about the actor and the more likely the actor was expected to repeat the behavior in the future.

Other studies have demonstrated that interpersonal expectations may be maintained through biased language use. Karpinski and von Hippel (1996) conducted two experiments designed to determine how the LIB helps individuals maintain their interpersonal expectancies in the face of disconfirmation. The authors suggested that the LIB serves an interpretive function that consequently mediates the extent to which people maintain expectancies when they encounter incongruent information. In the first experiment, the researchers manipulated expectancies by asking participants to imagine that a target person was either a best friend or a despised enemy. In the second experiment, expectancies were manipulated through the degree of similarity in political beliefs. In both experiments, each participant read a brief description of a target's political views and then compared these beliefs with their own, forming positive, negative, or neutral perceptions of the target. To assess the use of the LIB, participants in both experiments reported the extent to which sentences at varying levels of abstraction described a series of behaviors exhibited by the target. Each participant provided an initial score for his or her liking of the target and the initial liking score was compared to a post manipulation liking score. Results indicated a strong tendency to describe expectancy congruent behaviors at a higher level of abstraction than expectancy incongruent behaviors. This finding is directly relevant to intergroup contexts because

positive in-group and negative out-group behaviors are typically expectancy congruent, whereas negative in-group and positive out-group behaviors are expectancy incongruent. Moreover, participants who showed strong evidence of the LIB, compared with those who did not use the LIB, demonstrated more expectancy stability. This particular finding suggests that the LIB is not just a linguistic bias that influences communication, but also a personal attribution bias that influences the process by which information is encoded and understood. That is to say, the LIB influences communication of expectancies at both the group level and the individual level. The results also suggest that the LIB mediates the degree to which people maintain their expectancies in light of incongruity, supporting the premise that the LIB further contributes to the cycle of stereotyping.

Directly relevant to explaining Karpinski and von Hippel's results, Wigboldus, Semin, and Spears (2000) proposed a linguistic expectancy bias; the tendency to describe expectancy-congruent information at a higher level of abstraction than expectancy-incongruent information. Wigboldus and his colleagues were most interested in investigating the communicative consequences of such a bias, specifically the dispositional and situational inferences made about expectancy consistent and inconsistent behaviors. Results determined that expectancy-consistent information about a target gave rise to stronger dispositional inferences about that individual than did expectancy-incongruent information received about the target person performing the same behavior. Furthermore, language abstraction played a definitive mediating role in participants' inferences such that the mean level of abstraction of the messages mediated the stronger dispositional inferences made by participants in the expectancy-consistent condition. In essence, expectancies are generated and maintained not only within an

individual, but are also maintained and transmitted between individuals with language being a vital mediator in the process.

From the few studies that have examined language use and interpersonal expectancies, it appears that the LIB does serve a belief maintenance function. Differential use of language abstraction with expectancy consistent and inconsistent behavior contributes to the social transmission of interpersonal expectancies. Biased language use appears to feed a cycle in which initial beliefs and expectancies are transmitted to others through language.

At the same time that the LIB reflects one's prejudiced feelings, in-group bias, and stereotypes, it also may contribute to a perpetuating cycle of stereotype confirmation and intergroup conflict. By examining the previous research on LIB and expectancies, it becomes altogether evident how differential language use may accentuate and perpetuate existing stereotypes. For instance, one may imagine a self-perpetuating cycle by which stereotypically negative behaviors of the out-group member are described in abstract terms, reinforcing the existing expectation. In contrast, unexpected positive behaviors of an out-group are primarily described in concrete terms, implying these acts are atypical and therefore should be viewed as isolated instances. Detailed descriptions of desirable, yet inconsistent, out-group behaviors leave the generally negative concept of the out-group intact and protect against the threat of the stereotype's invalidation despite contradicting evidence. Furthermore, the linguistic transmission of these negative expectancies may have negative behavioral consequences for intergroup interactions.

Given its potential role in intensifying already negative intergroup relations, some LIB researchers have alluded to its consequences for maintaining group-level stereotyped

expectations. LIB researchers discuss its potential for influencing the persistence and transmission of social stereotypes (c.f., Maass et al, 1989; Maass et al., 1996), however, few have directly examined such effects. With the potential link between the LIB and stereotyping, it is important to examine how the language used in the LIB directly contributes to social categorization and possibly stereotype maintenance.

Behavioral Consequences of the LIB

Considering research that has been conducted on the LIB thus far, it is plausible that the language used with the LIB and its inherent implied expectations may directly influence behavior toward others. Although cognitive and motivational components of the LIB have been investigated, and some light has been shed on the LIB's effects of expectancy transmission, little is known about the direct behavioral effects of the LIB. Although its behavioral implications have been alluded to in much of the research, no conclusive work has yet been completed.

Previous research on behavioral confirmation processes and the self-fulfilling prophecy indicates that already existing cognitive biases and stereotypes may affect the behavior of both the individual who holds the biases and the target of the biases (Chen & Bargh, 1997). A self-fulfilling prophecy occurs when a perceiver's social beliefs are conveyed to a target and the target individual manifests the behavior that the perceiver expects (Jussim & Fleming, 1996). It has been established recently that behavioral confirmation can implicitly occur outside a perceiver's conscious awareness (Bargh et al., 1996; Chen & Bargh, 1997; Dijksterhuis & von Kippenberg, 1998). For example, Chen and Bargh (1997) conducted a study in which they primed the African American stereotype in participants by subliminally presenting photographs of African American

faces immediately preceding a social interaction. The stereotype activation not only resulted in the generation of behavioral tendencies in the perceiver consistent with the activated stereotype content (i.e., hostility), but also elicited similar behavior from the target person. Following the interaction, the perceiver's impressions of the target were consistent with the activated stereotype. The perceiver was only aware of the confirming behavior of the target, not of his or her role in producing such behavior.

Whether the LIB is a conscious or unconscious process remains an empirical question (c.f. von Hippel et al., 1997); however, it is quite possible that the language one uses when engaging in intergroup interactions would have these same types of confirming effects on behavior. Specifically, the use of the language associated with the LIB during social interaction may foster a self-fulfilling prophecy in its user. If a perceiver's negative out-group expectations as conveyed through the LIB are communicated to the target, the target may then react to this treatment with negative behavior that confirms the perceiver's initial expectation. Confirmed expectations then support and justify stereotypes and continued negative treatment toward out-groups.

THE PRESENT RESEARCH

The general purpose of the present research was to examine further how the LIB perpetuates stereotypes and to determine the potential behavioral implications of the LIB. The focus of the research differed from previous LIB research in that it specifically emphasized the language associated with the LIB rather than the actual use of the bias. While previous research has focused on the LIB as the consequence of intergroup relations and intergroup expectancies (Karpinski & vonHippel, 1996), the present dissertation examined the language used in the LIB and its effects on intergroup perception and interpersonal behavior. Two laboratory experiments were designed to achieve these goals.

First, the impact of the language associated with the LIB on exacerbating group boundaries and perpetuating stereotypes was investigated. As posited by LIB researchers, the LIB itself is stereotype augmenting and perpetuating in nature. Although LIB researchers have investigated how behavioral descriptions reflect expectancies, no explicit test has been conducted to determine if the language of the LIB directly contributes to social categorization and stereotype perpetuation. In an effort to demonstrate the direct effects of level of language abstraction on stereotype activation and intergroup perception, participants read sentence descriptions of various positive and negative behavioral descriptions worded in either abstract or concrete terms and were asked to determine which one of two people (i.e., an in-group or out-group member shown pictorially), matched each description. This categorizing task was designed to determine if the language associated with the LIB would lead to in-group and out-group categorization, reflecting stereotype use. Immediately following the categorization task,

each participant completed the implicit association test (IAT), to determine if heightened categorization as a result of LIB language use corresponded to an individual's implicit racial attitudes. This method differed from previous LIB research in that it used the language of the LIB as the stimulus for generating expectancies rather than as a measure of expectancies.

A second purpose of the present research was to examine directly the effects of the LIB and its inherent expectations on behavior, specifically the potential for the LIB to lead to behavioral confirmation. Although many LIB researchers suggest that biased intergroup speech may lead to negative behavioral outcomes (Maass, 1999), few go so far as to identify and assess the exact nature of these behavioral outcomes. If the language associated with the LIB does lead to social categorization, it may also lead to self-fulfilling prophecies in behavior. The purpose of the second experiment was therefore to determine if the language associated with the LIB directly contributed to self-fulfilling prophecies. Preceding a dyadic face-to-face interview, participants were given information that varied in terms of level of valence (i.e., positive or negative) and level of abstraction (i.e., abstract or concrete) about a naive target with whom they interacted. Participants selected items to ask their partner from a list of potential interview questions, varying in valence and level of abstraction. The effects of the LIB-relevant information on the participants' selections and perceptions, the targets' behavior, and independent observers' perceptions of the target were examined.

The combined results of these two studies should offer insight into the LIB's tendency to augment and perpetuate stereotypes as well as its behavioral implications for maintaining intergroup conflict. The language associated with the LIB is expected to

perpetuate stereotypes and to confirm negative expectations via self-fulfilling prophecy mechanisms. From these two studies, the process of the LIB may be better understood, and the necessity for controlling and/or altering the bias for the sake of intergroup harmony is explored.

Most LIB research has been conducted to establish the LIB as a general intergroup phenomenon resulting from social categorization processes. Therefore, the LIB is typically treated as a measure by manipulating in-group/out-group behaviors and measuring language as a consequence of group expectancies. What the previous research on the LIB fails to capture thus far is whether the actual language of the LIB directly contributes to further enhancing intergroup perceptions and negative intergroup behavior. The two proposed studies seek to extend the work on the LIB by directly examining the perceptual and behavioral outcomes of the particular language used in the intergroup bias.

Overview and Design of Experiment 1

To examine the effects of the LIB on stereotype activation, the language of the actual LIB was used as the stimulus for eliciting group categorization. Specifically, male and female participants read a total of four separate sentence pairs, with each pair describing positive or negative behavioral characteristics with one of the sentences written in abstract and the other in concrete terms. Immediately following each sentence pair, a photograph of an in-group and out-group member was presented and participants were asked to determine which individual matched which of the two descriptions. Following the completion of the categorization task, each participant completed the IAT, a group identity measure, and a manipulation check. The purpose of the group identity measure was to determine whether or not people who have high group identities were

more likely to categorize using the language of the LIB than those participants with low group identities.

Participants were expected to categorize abstract negative and concrete positive behavioral descriptions more frequently with out-group members than in-group members. Participants also were expected to ascribe concrete negative and abstract positive behavior descriptions more frequently to in-group than out-group members. Positive correlations were expected between categorization scores and IAT scores, and positive correlations were expected also between categorization scores and group identity.

Method

Participants.

Ninety-seven (29 male, 68 female) undergraduates at University of Maine, Orono who were enrolled in General Psychology participated in the experiment in partial fulfillment of an extra credit assignment (Age $\underline{M}$ = 20.30, $\underline{SD}$ = 4.04). The sample size collected was based on Cohen's (1983) power calculation, using a conservative effect size estimate.

Materials and Measures.

Linguistic Intergroup Bias Language Manipulation. The LIB language was manipulated with sentences constructed from Semin and Fiedler's (1992) Linguistic Category Model (LCM). Eight sentences were developed to reflect two abstract/positive, two abstract/negative, two concrete/positive, and two concrete/negative behaviors (See Appendix A for stimulus sentences). Sentences were pre-tested with a separate sample to ensure that they were consistent with the LCM. Sentences were rated on 7 point positive-

negative (valence) and general-specific (level of abstraction) scales. The pre-test ratings

are shown in Tables 2 and 3.

Table 2. Pre-tested Mean Valence Scores for Sentence Stimuli

Sentence Type	$\underline{n}$	$\underline{M}$	$\underline{SD}$
Positive	24	1.56_a	.63
Negative	24	6.41_b	.49

Note. Ratings were made on a 1 - 7 Likert-type scale, 1 = positive, 7 = negative. Means

with different subscripts represent significant differences, $\underline{p}$ = .0001.

Table 3. Pre-tested Mean Abstract Scores for Sentence Stimuli

Sentence Type	$\underline{n}$	$\underline{M}$	$\underline{SD}$
Abstract	24	2.47_a	1.25
Concrete	24	6.02_b	0.88

Note. Ratings were made on a 1 - 7 Likert-type scale, 1 = general, 7 = specific. The lower

the score, the more perceived abstraction. Means with different subscripts represent

significant differences, $\underline{p}$ = .0001.

To control for potential biased response effects by experimental participants, the

valence of sentence pairs was kept constant by randomly placing sentences differing in

level of abstraction within a positive or negative pair. Thus, four sentence pairs that

contained either two positive or two negative sentences differing in level of abstraction were presented to participants.

Stereotype Activation Measure. Sixteen photographs were used to measure the likelihood that participants categorize behaviors according to the language used in the sentences presented. The photographs were pre-tested to ensure that the individuals portrayed in the photographs adequately represented their relevant categories. Pre-test participants rated how similar the individual in the photograph was to them on 7 point similar-dissimilar scales. The pre-test similarity ratings are shown in Table 4.

Table 4. Pre-tested Mean Similarity Scores for Picture Stimuli

Picture	$\underline{n}$	$\underline{M}$	$\underline{SD}$
Black	24	3.05_a	1.11
Asian	24	3.49_a	1.26
Elderly	24	1.34_a	0.61
Non-mainstream	24	2.23_a	1.06
White	24	5.34_b	0.80
All Out-group	24	2.55_a	0.77

Note. Ratings were made on a 1 - 7 Likert-type scale, 1 = not at all similar to me, 7 = extremely similar to me. The lower the score, the less perceived similarity. Means with different subscripts represent significant differences, $\underline{p} = .0001$.

From these 16 photos, eight photograph pairs were chosen to represent four in-group/out-group categories: two African American/White pairs, two Asian/White pairs, two Young/Elderly pairs, and two Non-mainstream/Mainstream pairs (See Table 5 for reliabilities of stimuli).

Table 5. Pre-tested Reliability Analyses for Independent Variables

Experiment and Variable	$\underline{n}$	α	Number of Items
Sentence Stimuli			
All Positive	24	.61	4
All Negative	24	.65	4
All Abstract	24	.82	4
All Concrete	24	.68	4
Picture Stimuli			
All White	24	.79	8
All Out-groups	24	.71	8

Two pairs of each category were used to control for potential individual differences inherent in the photos. Experimental participants' stereotype activation scores were coded as a 1 for a "hit" or 0 for a "miss." A hit indicated that the participant matched the

negative abstract or the positive concrete sentences with the out-group photograph. Stereotype activation scores could potentially range from 0-4 for each participant.

Photograph Manipulation Check. To determine if experimental participants viewed the in-group and out-group categories represented in the 16 stimulus pictures differently, they were presented with each photograph separately and asked to circle the group label that best represented each of the individuals pictured in the photographs (i.e., White, Black, Asian, Elderly, Non-mainstream). An overall accuracy score was calculated by giving the participant one point for each correct photograph identification. The possible overall accuracy score for any given participant ranged from 0-16, with a score of 16 indicating the participant correctly identified all the photographs and a score of 0 indicating that the participant incorrectly identified all of the photographs (See Appendix B for manipulation check).

Implicit Association Test (IAT). The IAT (Greenwald, McGhee, & Schwartz, 1998) is a computer task that uses response latency to assess the relative strength with which attitude objects are associated with particular evaluations. The IAT used in the present experiment required participants to classify first names characteristic of Blacks and Whites (e.g., Tyrone and Steve) with evaluative attributes (e.g., unpleasant or pleasant words) paired with category labels (e.g., Black or White). Evaluative attributes included 38 words, 19 pleasant and 19 unpleasant (e.g., happy, warm, poison, and corpse). Two blocks of trials were used and each block consisted of 50 trials. As a name appeared on the computer screen, participants had to indicate, as quickly as possible, whether it fit into the Black/Pleasant or the White/Unpleasant category for the first trial block. In a second trial block, participants had to indicate whether the name fit into the

White/pleasant or Black/unpleasant category. Four practice trial blocks were given to each participant, followed by the two recorded trial blocks. The response latencies (i.e., total time in milliseconds for completion of each trial block) of both trial blocks and error rates were recorded and analyses conducted on the latency differences and error rates between Black/Unpleasant-White/Pleasant and Black/Pleasant-White/Unpleasant trial blocks.

Group Identity Measure. Each participant's group esteem was measured using the identity subscale of Luhtanen and Crocker's (1992) collective self-esteem measure (See Appendix C for identity measure). The measure included four questions relating to feelings about an individual's group memberships. The questions were answered on a 7-point Likert scale ranging from, "strongly disagree" to "strongly agree," and included questions such as, "The social groups I belong to are an important reflection of who I am." All responses were aggregated and then averaged to create an overall group identity score ranging from 1-7, with a lower score representing low group identity and a higher score representing high group identity. Overall, the alpha coefficient of reliability for the four-item measure was .77.

Procedure. Participants signed up individually to participate in a study on "impression formation." Following a brief introduction, participants read and signed an informed consent document. The experimenter told participants that the study was designed to investigate impression formation resulting from various behaviors (i.e., "While most research on first impressions has looked at how impressions of people lead to behavior judgments, we are interested in the reverse of this process; how behaviors lead to impressions"). Each participant received a stimulus packet, which included four pairs of

behavioral descriptions, followed by two photographs of individuals. The order that each participant received the four stimulus pairs was randomized and counterbalanced across participants. Each sentence pair was presented on one page and contained one concrete and one abstract behavior equal in valence (i.e., two positive or two negative sentences). The names of the individuals performing the behaviors were counterbalanced to control for possible name effects. For each packet, the page directly following each sentence pair consisted of the same stimulus sentences from the preceding page and one of the color photograph pairs. Altogether, there were four randomized photograph pairs in each stimulus packet, with each pair representing one of the four different groupings (i.e., Black/White; Asian/White; Elderly/Young; Non-mainstream/Mainstream). Stereotype activation was measured by asking participants to match the two individuals pictured in each pair with the two behavioral descriptions given. Ratings were made by forced choice (i.e., participants had to match each stimulus sentence with one of the pictured individuals). To control for order effects, the order in which the pictures were paired with the stimulus sentences was counterbalanced as was the order that the pictures were displayed on each page (See Appendix D for stimulus photos and forced choice scales).

Each participant was instructed to read the two behavioral description sentences, then turn the page and determine which of the two target individuals performed which of the two behaviors (See Figure 1 for an example). Participants repeated this procedure for all four of the stimulus sentence pairs. Following the completion of the categorization task, each participant completed the IAT on a computer that was set up on the desk in front of him or her. Participants then completed the group identity measure and the

photograph manipulation check. Following the manipulation check, participants were

thanked, debriefed and questioned for suspicion.

Figure 1. Sample Stimulus Packet for Experiment 1

This task is a bit like a matching task. For the sentences you just read, we want you to indicate which of the following individuals in the photos below performed which of the behaviors. In the blank next to each sentence write in the letter of the photo that corresponds with who you think did the behavior. Each sentence must be paired with only one of the pictures.

Mike is reliable. _____

Kevin gave a lost woman directions to her destination. _____
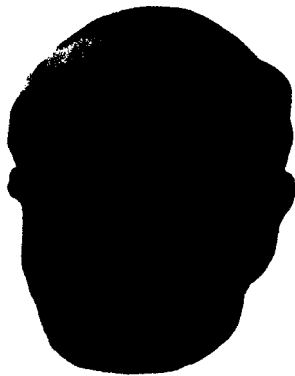
A   B
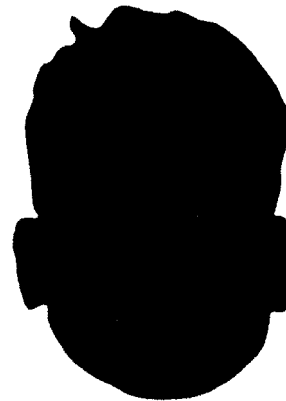
Results

Manipulation Check. Analyses conducted on the participants' photograph accuracy scores indicated that the difference between the obtained mean ($\underline{M}$ = 14.38, $\underline{SD}$ = 1.12) and the mean expected to result from chance ($\underline{M}$ = 3.20, $\underline{SD}$ = .81) was significant, $\underline{t}$ (96) = 50.70, $\underline{p}$ < .001, suggesting that the individuals in the photographs were accurately perceived to belong to groups they represented. No gender differences were found on this or any of the variables in Experiment 1.

Stereotype Activation Measure. An initial one sample t-test on stereotype activation scores was conducted to determine the probability beyond chance that participants ascribed abstract/negative and concrete/positive behaviors to out-group members. Although more hits than misses occurred with abstract/negative behaviors as can be seen in the All Combined row in Table 6, the t-test did not reach significance ($\underline{t}$ (96) = 1.21, $\underline{p}$ = .18), indicating that overall numbers of hits and misses were equal. The lack of significance is most likely due to more misses than hits made with positive descriptions.

To determine if there were differences within the positive and negative categories separately, one sample $\underline{t}$-tests were conducted on the overall positive and negative responses by comparing obtained and expected means. Although the $\underline{t}$- test on the positive responses was not significant, $\underline{t}$ (96) = 1.59, $\underline{p}$ > .05, the $\underline{t}$-test on the negative responses was significant, $\underline{t}$ (96) = 3.47, $\underline{p}$ < .001, indicating that when given negatively valenced sentences, participants were more likely to ascribe abstract/negative behaviors to the out-groups and concrete/negative behaviors to the in-groups.

A series of 2 (sentence valence: positive vs. negative) X 2 (activation score: hit vs. miss) Chi-Square tests were then conducted between obtained and expected frequency

Table 6. Stereotype Activation Frequency Scores

Out-group	Positive		Negative		χ^2
	Hit	Miss	Hit	Miss	
African American	27	16	29	25	.81
Asian	21	27	33	16	5.47 *
Elderly	15	36	37	9	25.32 **
Non-mainstream	23	28	22	24	.07
All Combined	86	107	121	74	

Note. * p <.05, ** p < .001.

distributions for each out-group target separately to determine the differences in category responding for each of the different out-groups (See Table 6). For African American and Non-mainstream targets, the relationship between valence and activation score was not significant, χ^2 (1, N = 97) =. 81, p = .37, and χ^2 (1, N = 97) =.07, p = .79, respectively. The 2 X 2 chi-square tests for Asian and Elderly targets did indicate significant relationships for sentence valence and activation score, χ^2 (1, N = 97) = 5.47, p = .02 and χ^2 (1, N = 97) = 25.32, p < .001, respectively. As can be seen in Table 6, most hits for both groups were found with negative sentences and most misses with positive sentences.

A closer look at the results of the Chi squares indicated that further binomial tests were necessary to identify the exact nature of the differences between groups. Binomial tests were conducted for the negative responses for each out-group that was initially

indicated significant by the chi-square tests. Binomial tests for Asian and Elderly targets did indicate significant relationships for sentence valence and activation score, z (48) = 2.43, p = .02, and z (45) = 4.13, p < .001, respectively. Although the binomial test for overall positive responses was not significant, three of the out-groups had interesting hit/miss rates and were analyzed further. A binomial test on the positive responses for the Elderly target was significant (opposite of the predicted direction), z (50) = 2.66, p = .007. A binomial test on the positive responses for the African American targets was marginally significant, z (42) = 1.68, p = .08, and not significant for Asian targets, z (48) = .866, p >.05.

Implicit Association Test. To determine the potential impact that endorsing the LIB had on implicit prejudice, the correspondence between participants' stereotype activation scores and IAT effect scores was examined. No correlation was found between participants' overall activation scores and IAT effect scores, r (97) = .08, p = .43. Pearson r correlations were also conducted for each individual out-group to determine if a correlation specific to the IAT of attitudes toward African Americanss existed. No significant correlations were found (For African American r (97) = .06, p = .53, Asian r (97) = .03, p = .78, and Elderly r (97) = .00, p = .97, Non-mainstream r (97) = .07, p = .45). Due to the significant binomial tests, separate correlations were also calculated between positive and negative responses and IAT effect scores for the Elderly and Asian groups. No significant correlations were found, Elderly positive, r (51) = .07, Elderly negative, r (46) = .18, Asian positive, r (48) = -.03, and Asian negative r (49) = .04.

As a further test of the potential implicit effects of using the LIB, a separate sample of 97 General Psychology students who were not initially primed with the LIB

language took the IAT of prejudiced attitudes toward African Americans. The mean IAT

effect scores of the non-experimental ($\underline{M}$ =189.53ms, $\underline{SD}$ = 196.82ms, $\underline{d}$ = .97; mean error

rate = 3% vs. 12%) and experimental ($\underline{M}$ = 184.29ms, $\underline{SD}$ = 202.77ms, $\underline{d}$ = .91; mean

error rate = 4% vs. 12%) samples did not differ significantly, $\underline{t}$ (192) = .19, $\underline{p}$ = .96.

Group Identity Measure. The correspondence between participants' stereotype

activation scores and their group identity levels was also examined. Overall, no

correlation was found, $\underline{r}$ (97) =. 08, $\underline{p}$ = .41, nor were significant correlations found for

any of the out-groups (For African American $\underline{r}$ (97) = .03, $\underline{p}$ = .79; Asian $\underline{r}$ (97) = - .07, $\underline{p}$

= .47; Elderly $\underline{r}$ (97) = .00, $\underline{p}$ = .97; Non-mainstream $\underline{r}$ (97) = -.13, $\underline{p}$ = .20). Separate

correlations were conducted between positive and negative responses and group identity

scores for the Elderly and Asian groups. No significant correlations were found, Elderly

positive, $\underline{r}$ (51) = .09, Elderly negative, $\underline{r}$ (46) = -.07, Asian positive, $\underline{r}$ (48) = -.07, and

Asian negative, $\underline{r}$ (49) = - .01.

Discussion of Experiment 1

The purpose of the first experiment was to determine the effect of the language of

the LIB on out-group stereotyping. The initial hypothesis that the language of the LIB

impacts stereotype activation was supported partially in that the language of the LIB

tended to influence the way participants ascribed the behaviors described in the stimulus

packets to in-group and out-group photographs. Although the t-test between hits and

misses across all out-groups was not significant, more hits than misses were evident with

negative sentences overall, suggesting that abstract/negative descriptions were more

frequently attributed to out-group than to in-group members. This pattern was significant

for two out-groups, Asians and the Elderly. The out-group differences that were found are interesting and warrant further interpretation in light of the original hypotheses.

For the African American stimulus photographs, although not significant, participants tended to respond with more hits than misses overall, suggesting that more abstract negative and concrete positive sentences were ascribed to the African American photographs than to White photographs. For example, the sentence "Kevin is mean" was more likely to be ascribed to the African American faces than was the sentence "Kevin stole a CD from a record store." In addition, the fewest number of misses occurred when the valence of the sentences was positive. Fewer abstract positive and more concrete positive stimulus sentences were assigned to the African American photographs than to White photographs. Despite trends demonstrating the role of the language of the LIB in increasing stereotyping with the African American targets, they were not significant. One possible explanation for the nonsignificant results is that the participants' responses might have been influenced by social desirability. It may be more acceptable to use concrete positive than abstract negative terms to describe the behavior of African Americans, as concrete positive terms may represent a more subtle and less blatant way of expressing prejudice than do abstract negative terms.

The nonsignificant results for the non-mainstream photographs are also noteworthy. No substantial differences between the hits and misses were found with regard to sentence valence. That is, participants were equally likely to ascribe positive and negative concrete and abstract sentences to the non-mainstream photographs. This finding may be a result of the sample tested in the present study. Participants were college students, and although the pre-testing data suggested that the non-mainstream individuals

were considered different, it may be the case that college students are more accepting of alternative styles of hair and body piercing than of traditional out-group types, such as race or age.

The significant results for the Asian photographs are particularly compelling. Most hits were found with negative sentences indicating that participants paired more abstract negative sentences (e.g. "Rob is mean") with Asian faces than with White faces. Furthermore, few concrete negative sentences were assigned to Asian faces. Despite commonly held positive stereotypes regarding Asian Americans in economic, educational, and mental health areas (Ho & Jackson, 2001; Uba, 2002), the results of the present study indicate that it may be acceptable to use more obvious forms of prejudice such as abstract negative terms to describe the behaviors of Asians. Many researchers report that due to the exceedingly favorable stereotypes that are commonly held, the less common negative stereotypes are not well documented. Contradictory to traditional stereotypes of Asian males, current popular media depicts images of young male Asians as violent rebels (Joe, 1994). The results of the first experiment may suggest that holding negative attitudes toward Asians is increasing in acceptability.

Possibly the most intriguing of all the findings were the effects of the LIB language on categorization of Elderly stimulus photographs. The highest number of abstract negative hits occurred with these targets, indicating that participants ascribed more abstract negative sentences (e.g. "Jeff is irresponsible") to Elderly faces than to younger White faces. Apparently, participants were willing to ascribe the abstract negative terms to the Elderly faces almost every time they were displayed, with only nine misses out of 97 judgments made when the elderly face was shown. This strong effect

may demonstrate that holding negative views of the elderly is acceptable in our society and participants see no reason to hold back or control their biases. Another possible explanation for the significant effects of the LIB on stereotyping with the Elderly photographs is that the sample used in the present study was comprised of college students. It may be that participants perceived the Elderly faces as extremely different from themselves, which may explain why the results are far more exaggerated with this particular out-group than for the other out-groups. Interestingly, more misses than hits were made with positively valenced sentences as participants were more likely to assign abstract positive sentences to Elderly rather than younger White faces. Thus, abstract sentences, regardless of valence, were ascribed to Elderly photographs. While seemingly contradictory, these findings are consistent with current research on ageism (Cuddy & Fiske, 2002; Levy & Banaji, 2002), which suggests that the commonly held stereotypes of the elderly are not one-dimensional but multi-dimensional in nature. This multi-dimensional approach to stereotyping suggests that it is common for people to simultaneously hold both positive and negative stereotypes about the elderly. The abstract terms used in the present experiment were the following: mean, irresponsible, honest and reliable. Given that it is possible for people to hold equally strong but conflicting positive and negative attitudes toward the elderly (Cuddy & Fiske, 2002), it is not altogether surprising that participants matched both the positive and negative abstract terms to Elderly faces. These findings suggest that research on the LIB needs to be conducted to gain a better understanding of language use toward groups for which there are ambivalent stereotypes.

Overall, the effect of the LIB on stereotyping was demonstrated on both the Asian and Elderly faces, whereas the effect was not significantly demonstrated for the African American faces in the negative condition, and only marginally in the positive condition, and not at all demonstrated for the Non-mainstream faces. The differential effects of the LIB language on out-group stereotyping not only indicates that the LIB perpetuates stereotypes in some cases, but also has implications for the way in which the LIB is used. The LIB may be more malleable and under conscious control than is claimed by some researchers (von Hippel et al., 1997). The lack of correlation between the categorization scores and the IAT scores lends credence to this interpretation, as do the inconsistent effects of the LIB on stereotype activation for the different out-groups. First, given the previous research on the LIB, it was assumed that the bias might be a valid measure of unconscious implicit attitudes. The lack of correlation between participants' use of the LIB and their IAT scores in the present study indicates otherwise. If the LIB is a measure of implicit attitudes, then it should be related to similar constructs of implicit out-group attitudes, such as scores on the IAT. Second, the LIB may be under conscious control and may not be used by those motivated to hide their negative attitudes. If the use of the LIB is under conscious control, its use and effects should be out-group specific, as the data here suggest, and most evident with out-groups for which it is acceptable to express negative attitudes overtly. Currently, it is not socially acceptable to display overt, negative attitudes toward African Americans but it may be more acceptable to express overt negative attitudes toward Asians and the elderly. If so, social desirability may account for the differentiated pattern of LIB effects found here.

To investigate further a social desirability explanation for the results of Experiment 1, a separate post-hoc sample of 146 General Psychology students were asked to report their attitudes regarding the acceptability of making derogatory jokes about members of each of the four out-groups studied in Experiment 1. Participants' attitudes toward joke telling in both private, familiar settings (i.e., among friends where one may feel safe expressing negative attitudes), and public settings (i.e., among strangers where social desirability may be important) were assessed with two Likert-type questions for each out-group; "Imagine you are with a group of your friends and one of your friends makes a joke about *African Americans*. How acceptable is a joke of that nature?" (1 = highly unacceptable to 7 = highly acceptable), and "If you were to make a negative comment about *African Americans* in public, how positive or negative do you think others' reactions would be?" (1 = extremely negative to 7 = extremely positive). A 2 (Context: public/private) X 4 (Out-Group: African American/ Elderly/ Asian/ Non-mainstream) within subjects ANOVA yielded a significant main effect for context $\underline{F}$ (1, 144) = 21.91, $\underline{p}$ <. 001, indicating that participants considered it less appropriate to make out-group jokes in public than among friends (See Table 7 for mean attitude scores for the out-group targets).

Table 7. Mean Attitudes Toward Making Out-group Jokes by Context and Out-group

Out-group	Private		Public	
	M	SD	M	SD
African American	2.80	1.62	2.32	1.15
Asian	3.13	1.77	2.74	1.28
Elderly	4.36	1.91	3.47	1.48
Non-mainstream	4.32	1.84	3.94	1.58

Note. Ratings were made on a 1 - 7 Likert-type scale, 1 = not at all acceptable 7 = extremely acceptable. The lower the score, the less perceived acceptability.

A significant main effect for out-group also was found, F (3, 144) = 75.92, p <. 001. Planned comparisons indicated it least acceptable to joke about African American targets compared to Elderly, t (144) = 11.72, p < .001, Asian, t (144) = 4.63, p < .001, and Non-mainstream targets, t (144) = 13.83, p < .001. Participants were more accepting of jokes about the Elderly than Asians, t (144) = 9.98, p < .001, and more accepting of jokes about Non-Mainstream than the Elderly targets, t (144) = -2.13, p < .05. Jokes about Asians were perceived as less acceptable than jokes about Non-mainstream targets, t (144) = 11.19, p < .001. Furthermore, a significant context x out-group interaction was found, F (3, 142) = 6.08, p < .001, indicating that joke acceptability is determined by both out-group and context. Comparisons conducted between groups within each level of context demonstrate it less acceptable to joke about African Americans in public than the Elderly, t (144) = 9.98, p < .001, Asians, t (144) = 4.32, p < .001, or Non-Mainstream

targets, t (144) = 12.10, p < .001, and more acceptable to joke about the Non-mainstream

(vs. Asian targets, t(144) = 10.41, p = .002 and Elderly targets, t (144) = 3.84, p < .001).

Also, public jokes about Asian targets were perceived as less acceptable than jokes about

Non-mainstream targets, t (144) = 10.41, p < .001. For private contexts, comparisons

indicated it least acceptable to joke about African Americans than the Elderly, t (144) =

9.83, p < .001, Asians, t (144) = 3.17, p < .01, or Non-Mainstream targets, t (144) =

10.74, p < .001, and most acceptable to joke about the Elderly targets than the Asian

targets, t (144) = 9.21, p < .001. No significant difference was found between the Elderly

targets and Non-Mainstream targets, t (144) = .25, p > .05 in private contexts. Also,

private jokes about Asian targets were perceived as less acceptable than jokes about Non-

Mainstream targets, t (144) = 8.81, p < .001.

Altogether, the data lend credence to a social desirability interpretation of the

findings from the first experiment. It is considered least acceptable to make jokes about

African Americans in public, slightly more acceptable to make jokes about Asians, and

even more acceptable to make jokes of the elderly, particularly among friends. These

attitudes are for the most part consistent with the stereotype activation results from

Experiment 1, which indicated that people were significantly more likely to ascribe

abstract negative sentences to Asian and Elderly faces than to young White faces, but

were not significantly more likely to ascribe abstract negative sentences to African

American than White faces. The lack of LIB effects for the African American faces could

be due to participants' unwillingness to apply negative abstract terminology to categorize

African American individuals for fear of appearing prejudiced. Given the more relaxed

constraints against expressing prejudiced attitudes toward Asians and the elderly,

however, clear LIB effects on categorizing for these out-groups resulted. With these three out-groups, it does appear that the use of the LIB and its ultimate effects on stereotype activation may be malleable and under more conscious control than initially suspected. Inconsistent with the findings of Experiment 1, were participants' attitudes toward ridiculing non-mainstream individuals. Although participants believed it highly acceptable to ridicule individuals with tattoos and piercings, this attitude was not clearly conveyed in the categorization scores in Experiment 1. A possible explanation for this seemingly contradictory finding might be that the college students used in the sample were more comfortable joking about individuals with tattoos and piercings because tattoos and piercings are associated with unconventionality and rebellion in society. It may be that in relation to joking about Non-mainstream individuals, they were perceived as more of an out-group than a relevant in-group. However, when college students were pressed to ascribe positive or negative behaviors to particular individuals, college students were more likely to include individuals with tattoos and piercing in their peer groups and not view them as different from the White stimulus photograph. That is, it may be that when participants in Experiment 1 saw the Non-mainstreamed photographs, the youthful in-group was activated and thus it was more acceptable to view the tattooed and pierced individuals as in-group members and the distinctions between the Non-mainstream stimulus photos and the White stimulus photos was less pronounced.

Given the partial effects of the LIB on categorization scores that were found in Experiment 1 it is highly possible that the language relevant to the LIB could impact behavior directly. The results of the first study indicate that the language of the LIB does impact stereotype activation, at least for two of the four out-groups examined. With the

knowledge that the language of the LIB has an influence on stereotyping, a second important question to ask is whether there are direct behavioral outcomes of using the language of the LIB during interpersonal interactions. A second experiment was designed to investigate the possible effects of the LIB on interpersonal behavior.

Overview and Design of Experiment 2

The purpose of Experiment 2 was to determine if abstract and concrete language use impacts behavior during interpersonal interactions. The results of Experiment 1 indicated that the use of the language associated with the LIB had an effect on social categorization, at least for some out-groups. Experiment 2 sought to look more closely at the language of the LIB in relation to fostering a self-fulfilling prophecy in its user. If a perceiver's negative out-group expectations, as conveyed through the language of the LIB, are communicated to a target, the target may then react to this treatment with negative behavior that confirms the perceiver's initial expectations. For this experiment, language was isolated from the intergroup context to examine the direct effects of language abstraction on behavior. Male and female participants were recruited in same-sex pairs to participate in a study ostensibly investigating college-dating relationships during which they engaged in a dyadic, face-to-face interview about their dating experiences. Before interacting, participants were randomly assigned the role of interviewer and interviewee and the interviewer was given bogus positive or negative information about his/her interaction partner in abstract or concrete terms. Interviewers then selected five from a total of 20 positive and negative questions, ranging in level of abstraction, to ask their partners during the interview. To assess the effects of the manipulated information on the interviewer's expectations and behavior toward the

interviewee, the types of questions the interviewer chose to ask the target during the interaction were recorded, as were the interviewer's negative perceptions of their partners. To determine if the interviewer's expectations had an impact on the target's behavior, each target's behavior was videotaped and later coded for hostility and negative behavioral instances. Attributions for the target's behavior were assessed by a separate sample of judges and by the interviewer immediately following the interaction. Participants also reported the likelihood that they saw their interaction partner as an out-group member. In addition, the interviewee completed a negative self-concept measure to determine if the language had any effect on the target's own self perception.

If the language of the LIB does impact behavior and leads to expectation confirmation, participants who were given the abstract/negative information about their partner would be expected to select abstract/negative interview questions, to view their partner more negatively, and to elicit more negative behaviors from their partners than those in the concrete/negative and concrete/positive conditions. Participants in the abstract/negative condition were also expected to be more likely to view their interaction partner as a potential out-group member. The abstract/positive manipulation was expected to yield an opposite pattern of results. That is, participants given abstract/positive information were expected to elicit more positive behaviors from their partners and be less likely to view their interaction partner as a potential out-group member than those in the abstract/negative condition.

Method

Participants. One hundred eighty-six (36 male pairs and 57 female pairs) undergraduates at the University of Maine, Orono who were enrolled in General Psychology participated

in the experiment in partial fulfillment of an extra credit assignment (Age $\underline{M}$ = 19.59, $\underline{SD}$

= 3.29). The sample size needed ($\underline{N}$ = 120) was determined based on Cohen's (1983)

Power calculation. As in Experiment 1, a conservative effect size was used in the

estimate. All participants were asked prior to engaging in the interaction if they had ever

been in a romantic relationship (yes = 184, no = 2). Of the two participants, one qualified

the response and reported that she had never had a serious relationship but had dated

before. The other participant was randomly assigned already to the role of interviewer,

which did not require that he respond to the dating questions. Due to the fact that

relationship experience was not relevant to the study or to the primary variables under

investigation, both of these participants and their partner's data were included in all

analyses.

Materials and Measures.

Manipulated Partner Information. The concrete and abstract information given to

participants about their partners was designed in accordance with Semin and Fiedler's

(1992) model of language abstraction. Altogether, eight descriptions were developed to

represent two abstract/positive, two abstract/negative, two concrete/positive, and two

concrete/negative partner descriptions (e.g., abstract/positive, "She is really nice";

abstract/ negative, "She is really mean"; concrete/positive, "She just came from

volunteering at the Child Study Center"; concrete/negative, "On the way up here I saw

her shut the door on a handicapped person"). The information was pre-tested as to

valence and abstractness to ensure that it was consistent with the LCM (See Tables 8 and

9).

Table 8. Pre-tested Mean Valence Scores for Confederate Feedback

Sentence	n	M	SD
Positive	24	1.73 a	.63
Negative	24	6.27 b	.91

Note. Ratings were made on a 1 - 7 Likert-type scale, 1 = positive 7 = negative. The lower the score, the more positive the participants perceived the statement. Means with different subscripts represent significant differences, $p < .0001$.

Table 9. Pre-tested Mean Abstract Scores for Confederate Feedback

Sentence	n	M	SD
Abstract	24	1.96 a	.85
Concrete	24	5.63 b	1.15

Note. Ratings were made on a 1 - 7 Likert-type scale, 1 = general 7 = specific. The lower the score, the more perceived abstraction. Means with different subscripts represent significant differences, $p < .0001$.

At the beginning of the experiment, one of the eight descriptions was given to the participant playing the role of the interviewer by a confederate pretending to be a fellow student who just finished participating in the study (See Appendices E and F for manipulated information and experimenter/confederate scripts).

Manipulation Check. To ensure that the manipulated partner information was indeed heard and processed by the interviewer, at the end of the experiment each participant in the interviewer role was asked to write down what the confederate told him/her about his/her partner (See Appendix G).

Interview Questions. The questions used in the interview session were modeled after Snyder and Swann's (1978) experiment on hypothesis-testing processes in social interaction. Twenty positive and negative questions that varied in abstraction level were generated about relationships. Altogether, five abstract/positive, five abstract/negative, five concrete/positive, and five concrete/negative questions were developed (See Appendix H for questions). The questions were pre-tested as to valence and abstractness to ensure that they were consistent with the LCM (See Tables 10 and 11 for pre-testing means and Table 12 for overall reliability scores).

Table 10. Pre-tested Mean Valence Scores for Dating Questions

Sentence	$\underline{n}$	$\underline{M}$	$\underline{SD}$
Positive	24	2.20 $_a$	1.00
Negative	24	5.48 $_b$	.84
Neutral	24	3.73 $_c$	1.02

Note. Valence ratings were made on a 1 - 7 Likert-type scale, 1 = positive 7 = negative. The lower the score, the more positive the question. Means with different subscripts represent significant differences, $p < .0001$.

Table 11. Pre-tested Mean Abstract Scores for Dating Questions

Sentence	$\underline{n}$	$\underline{M}$	$\underline{SD}$
Abstract	24	3.39 $_a$	1.39
Concrete	24	5.42 $_b$	1.07
Neutral	24	3.84 $_{ab}$	1.01

Note. Ratings were made on a 1 - 7 Likert-type scale, 1 = general 7 = specific. The lower the score, the more perceived abstraction. Means with different subscripts represent significant differences, $p < .0001$.

Table 12. Pre-tested Reliability Analyses for Independent Variables

Variable	n	α	Number of Items
Confederate Feedback			
All Positive	24	.78	4
All Negative	24	.82	4
All Abstract	24	.82	4
All Concrete	24	.82	4
Dating Questions			
All Positive	24	.94	10
All Negative	24	.82	10
All Abstract	24	.90	10
All Concrete	24	.85	10

The questions were randomly distributed on a question sheet from which interviewer participants selected five to ask the interviewee. A correct question choice score was calculated by aggregating the number of times participants chose questions which were consistent with the language category given by the confederate. For example, if the participant was in the abstract/negative condition the correct question choice score for that participant was a sum of the number of times s(he) selected abstract negative questions. Altogether, correct question choice scores could range from 0-5.

Pre-Interview Questions. Each interviewer received a sheet of 7 pre-interview questions (See Appendix I). The pre-interview questions were innocuous, basic demographic questions that were designed to increase participants' comfort levels by allowing them to become more familiar with one another and to start the interaction without having to launch immediately into personal dating questions. The pre-interview questions also helped to increase the length of the interaction in order to facilitate behavioral coding. The answers given to these questions were not coded or analyzed.

Behavior Outcomes: Perceived Hostility. Interviewers' perceptions of their partner's hostility level were measured with four, 9-point semantic differential items: hostile/not hostile, aggressive/not aggressive, warm/cold, and friendly/unfriendly. Participants' ratings on the four hostile behavior items demonstrated good reliability (α = .78), and were averaged to form an overall hostile behavior index (See Appendix J for hostile behavior items). Interactions were also videotaped, reviewed, and coded by two independent observers for the degree to which interviewees (i.e., targets) displayed hostile behavior during the interaction (as assessed by Chen & Bargh, 1999). Observers' perceptions of the targets' hostility levels were measured with the same four, 9-point

semantic differential items as the interviewers. Ratings from the two independent

observers were reliable ($\underline{r}$ = .82), and were averaged together to create one observer score.

Behavior Outcomes: Negative Perceptions. To obtain an overall measure of

interviewers' negative perceptions of their interaction partner, interviewers rated 13

characteristics of their partners on 9-point semantic differential scales (e.g.,

honest/deceitful, warm/cold, friendly/unfriendly, See Appendix K). Items assessing

negative perceptions were tested for reliability (α = .88), then were aggregated into one

negative perception composite score. To obtain an observational measure of negative

perceptions of the interviewees, independent observers viewed the videotaped

interactions and rated the negative characteristics of the interviewees on the same 9-point

semantic differential scales used by the interviewers. Inter-rater reliability on the negative

perceptions was high ($\underline{r}$ = .94), and observers' ratings were averaged to produce one

negative perception score.

Attributions for Target's Behavior. Participants assigned to the interviewer role

completed a six-item internal/external attribution measure for the interviewees' behavior

during the interview. Three questions relevant to internal/personality attributions and

three questions relevant to external/situational attributions for the interviewees' behavior

were answered on 9-point Likert scales (1 = not at all to 9 = totally) (i.e., To what extent

was the other participant's behavior due to some aspect of the situation?). Responses on

items for the two types of attributions demonstrated adequate reliability (α = .72 for

internal and α = .74 for external items), therefore internal and external attribution scores

were calculated separately by averaging the three responses for each attribution type and

analyses were conducted on these averages (See Appendix L for the attribution measure).

Two independent coders also viewed the videotaped interactions and reported internal and external attributions for the interviewees' behavior. The observers' ratings for each type of attribution were reliable (internal, r = .73; external, r =. 70), therefore averaged together.

Out-Group Perceptions. Participants reported how similar they perceived their partners to be to themselves and how likeable their partners were on 12, 9-point Likert-type scales (1 = not at all to 9 = extremely). These 12 questions were used to assess the extent to which participants perceived their partner as a potential out-group member (See Appendix M for out-group perception measures). A composite out-group perception score was developed by aggregating the similarity and likeability scale items (α =.80).

Interviewee's Self-Concept Measure. To assess the interviewees' self-concept immediately following the interaction, the same semantic differential scale used to tap interviewers' and independent observers' negative perceptions of the interviewee target was used (α = .88). Instructions on the scale were modified for the interviewees to report their self-concepts. The measure was scored in a manner identical to the one described above.

Procedure. Male and female participants, in same-sex dyads, were recruited to participate in a study on dating behavior. Participants' arrivals were staggered at ten-minute intervals so that they would not see one another before the experiment. Upon arriving at the lab, the participants were informed that an interview setting tends to be the best method for acquiring a great deal of information about students' dating attitudes and behavior, therefore an interview would be conducted to understand further this important topic. During the interview, one person would be assigned to be the interviewer and the

other the interviewee. The interviewer was to select a few questions about dating from a pre-determined list to ask the interviewee and the interviewee would answer them as best as (s)he could. Participants were then assigned by rigged drawing to the interviewer or interviewee role. Both of the participants randomly chose a piece of paper that had "interviewer" or "interviewee" written on it. Each participant believed that he/she was choosing the role he/she would play, however the drawing was rigged so that the first participant who arrived in the lab was always assigned to be the interviewer. The first arrival was assigned the interviewer role because extra time was needed for the interviewer to interact with the confederate and to review and choose questions. The participants were then each brought to a separate room where they received further instructions. The interviewer was brought to a room where a confederate was gathering her belongings in the same room under the guise of just completing an experiment.

The experimenter then explained to the interviewers that they would be expected to choose questions to ask their partners from a list provided by the experimenter. The experimenter gave the participant the list of 20 possible questions from which they would choose five questions to ask their partner. Each of the 20 questions was also written on a separate index card. Once the interviewer had been given the questions to choose from, the experimenter left the room to give experimental directions to the interviewee, allowing the interviewer time to chose his/her questions. Upon hearing the name of the interviewer's partner, the confederate leaving the interviewer's room acknowledged that the partner was familiar to her and verbally gave the interviewer a piece of false information about the interviewee, whom the interviewer had not yet met but would be working with later. The behavioral information provided by the confederate and randomly

assigned to each dyad was described in either abstract or concrete language with a positive or negative implication. When delivering the information, the confederate addressed the participant as if he/she was giving the information in confidence for the benefit of the interviewer. After the confederate left, the participants perused the list of questions. When the participant had selected the questions to ask, (s)he was given those exact questions on separate index cards and brought them to the interview. The separate index cards prevented interviewers from asking questions during the interview setting that they did not select originally, immediately after receiving the manipulated information about their partners.

While the interviewer was choosing the questions, the experimenter had the interviewee fill out some demographic information. At some point after the question selection, but before the participants were brought together, the interviewer received a list of pre-interview questions. The experimenter explained that in order to make the interview more comfortable, they were to introduce themselves to their partner using the pre-interview questions as a guide and then following the introduction they would ask their partner to answer the same pre-interview questions. The purpose of the pre-interview questions was to make the transition into asking dating questions less awkward. It was explained to the interviewee that due to the nature of the experiment the demographic information was necessary. One of the questions on the demographic information sheet referred to dating experience, to ensure that the interviewee had been involved in at least one romantic relationship. After the questions were selected, pre-interview questions answered, and demographic information obtained, the interviewer and the interviewee were brought into the same room and seated at a table facing each

other. The actual interaction between the two participants was videotaped and coded for negative behavioral instances. Following the interaction, the participants returned to their individual rooms. The target individual (interviewee) was given the out-group and self-concept measures. The interviewer was given the hostility and negative perception scales, attribution scale, out-group scale, and the manipulation check. Following the completion of the paper-and-pencil measures, participants were debriefed, questioned for suspicion, and thanked for their participation.

Results

Manipulation Check. Of the 93 participant interviewers in the study, 86 (92.5%) correctly recalled the information given to them about their partner by the confederate. The seven participants who did not recall the information were dropped from the analyses.

Consistency of Items Within Categories. To assess the consistency of the two items within each of the four categories of information given (i.e., abstract/positive, abstract/negative, concrete/positive, concrete/negative), and to determine if it was appropriate to combine the items, t-tests were conducted to compare the means between the two pieces of information within each category on every dependent variable. For abstract/positive, concrete/positive, and concrete/negative information categories, the patterns of means were similar within each sentence pair on every dependent variable. The two pieces of information in the abstract negative condition (i.e., mean vs. thief), diverged on ratings of hostility and negative perceptions, with interviewees in the thief condition appearing to evoke more hostile ratings and negative perceptions than those in

the mean condition (See Table 13 for means and standard deviations for the mean and

thief conditions for hostility and negative perceptions).

Table 13. Means and Standard Deviations Comparing Mean and Thief Items on Hostility

and Negative Perceptions

	Hostility Perceptions		Negative Perceptions	
	Interviewers	Observers	Interviewers	Observers
	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)
Items				
Mean ($\underline{N}$ = 12)	2.70 (1.35)	4.09 (.70)	3.31 (1.28)	4.62 (.78)
Thief ($\underline{N}$ = 7)	3.72 (.76)	4.48 (.98)	4.25 (1.21)	5.17 (.80)
$\underline{t}$	-1.84	-1.00	-1.43	-1.45
$\underline{p}$	.07	.33	.16	.16

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = not hostile, 9 = hostile and 1 =

negative 9 = positive. The lower the score, the less perceived hostility and negative

perceptions of the interviewees' behavior.

Given the inconsistencies between the two pieces of information and because the

hostility ratings in the mean condition were well below the scale midpoint, removing the

mean cases was justified. Therefore, the 12 cases that included the mean information

were dropped from the analyses and replaced with 11 newer cases collected using the thief information. To compare the former thief cases with the new ones collected, t-tests were conducted and yielded no significant difference or divergent pattern of means on any of the dependent variables, $\underline{t}$s < 1.

Including the new thief cases collected, the total numbers of participants in each of the groups were: 18 abstract/negative (18 thief), 21 abstract/positive (12 nice, 9 generous), and 17 concrete/positive (11 lend notes, 6 volunteer), and 18 concrete/negative (9 stole notes, 9 shut door)cases. Initial analyses were conducted on the general categories (i.e., abstract/negative). The first step was to determine if the language categories differentially affected the questions selected by interviewers.

Interview Questions. Two types of analyses were conducted to determine if participants' question choices varied as a function of the language used to describe the interviewee. First, one-sample t-tests were conducted on question choices comparing obtained and expected means to see if question choice differed from chance. Second, ANOVA's were conducted to determine if correct question choices differed by category (i.e., to see if the categories differed from each other).

Given that participants had five chances to choose correct questions, the expected mean used in the analyses was 1.5. One sample t-tests were conducted on each of the question categories by comparing the obtained with expected means. For the abstract negative condition, participants' responses were significantly different than chance in the direction opposite to that of the initial predictions, $\underline{t}$ (17) = -2.73, $\underline{p}$ < .02, indicating that correct responding in the abstract negative condition did not occur often. No significant result was obtained for the concrete negative condition, $\underline{t}$ (17) = 1.18, $\underline{p}$ >.05. In the

abstract positive condition the t-test was significant, again in the opposite of the predicted direction, t (20) = -3.19, p < .01. Finally, in the concrete positive condition the t-test was not significant, t (17) = 1.90, p > .05. Further one sample t-tests were conducted between expected and obtained means (expected mean = 2.5) to determine if there were any significant differences for question choices within abstract and concrete categories ignoring valence (i.e., nice, generous, and thief, were all combined to create an abstract category; stole notes, borrow notes, volunteer and shut door were combined to create a concrete category). Significant results were obtained for both the abstract (t (38) = -2.39, p <.05) and the concrete information (t (34) = 3.44, p < .01). For the abstract category, although the result was significant, participants chose abstract questions significantly less frequently than chance. In the concrete category, participants chose concrete questions more frequently. One sample t-tests between obtained and expected means were conducted for the valence of the categories ignoring level of abstraction. No significant results were obtained for the positive category, t (37) = .861, p > .05, or negative category, t (35) = 1.24, p > .05.

The second type of analysis examined whether the categories differed from each other. A correct question choice score was also calculated by aggregating the number of times participants correctly chose questions and further analyses were conducted on this correct question choice score. A correct choice resulted if the participant chose questions which were consistent with the language category given by the confederate. For example, if a participant was given abstract negative information, the correct question choice score for that participant would be an sum of the number of times (s)he selected abstract negative questions. Correct question choice scores could range from 0 - 5. Analyses were

then conducted on the correct question choice score. A 2 (Participant Sex: Male, Female)

X 4 (Confederate Information Category Given: Abstract Negative, Abstract Positive,

Concrete Negative, Concrete Positive) ANOVA revealed a nonsignificant interaction, $F <$

1, and no significant main effect for gender, $F < 1$. However, a significant main effect for

confederate information category was found, F (3, 66) = 5.54, p = .002. Tukey's post-hoc

comparisons indicated that correct question choice scores in the abstract negative

condition (M = .78, SD = .73) differed significantly from correct question choice scores

in both the concrete negative (M = 1.55, SD = 1.09, p = .01) and concrete positive

conditions (M = 1.65, SD = .86, p = .04). Tukey's post-hoc comparisons also revealed

that correct question choice scores in the abstract positive condition (M = .76, SD = .70)

differed significantly from correct question choice scores in both the concrete negative

(M = .1.65, SD = 1.01, p = .03) and concrete positive conditions (M = 1.64, SD = .74, p

= .02). Similar to the results found with the one-sample t-tests, the results of the ANOVA

suggested that participants chose concrete questions regardless of valence more often than

abstract questions.

A one-way ANOVA across the seven different pieces of information given (i.e.,

thief, nice, generous, stole notes, shut door, borrow notes, volunteer) indicated a

significant main effect for confederate piece of information given F (6, 67) = 2.28, $p <$

.01. Tukey's post-hoc comparisons indicated that participants who were told their partner

borrowed notes (M = 1.54, SD = .93) had higher correct question choice scores than those

participants who were told their partner was a thief (M = .78, SD = .73).

Along with the correct question choice scores, separate category scores were

calculated for the four types of questions (i.e., abstract positive, concrete positive, abstract

negative, concrete negative), by adding the number of questions the interviewers chose

from each of the four categories. Each category score could range from 0-5. Although the

ipsitive nature of the category scores made it inappropriate to conduct formal statistical

tests, the category score means by condition are noteworthy. As can be seen in Table 13,

interviewers tended to select more concrete positive questions to ask than any of the other

question types. Tables 14 and 15 include the means and standard deviations for category

score by Confederate Information Category Given (i.e., abstract positive, concrete

positive, abstract negative, concrete negative) and Specific Confederate Piece of

Information Given (i.e., thief, stole notes, shut door, nice, generous, lend notes,

volunteer). Although the manipulation did not produce the desired effects in terms of the

interview questions chosen, subsequent analyses were conducted on the remaining

dependent variables.

Table 14. Means and Standard Deviations for Category Score by Confederate Information

Category Given

	Types of Questions Chosen			
	Abstract Positive	Abstract Negative	Concrete Positive	Concrete Negative
Confederate Information	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)
Abstract Positive ($\underline{N}$ = 21)	.86 (.73)	.86 (.91)	2.00 (.94)	1.29 (.84)
Abstract Negative ($\underline{N}$ = 18)	.83 (.85)	.78 (.73)	1.77 (.80)	1.83 (1.29)
Concrete Positive ($\underline{N}$ = 17)	.65 (.60)	.82 (.73)	1.71 (.79)	1.82 (.73)
Concrete Positive ($\underline{N}$ = 18)	.95 (.94)	1.00 (.76)	1.50 (1.10)	1.56 (1.10)

Note. Category scores could range from 0 – 4. The lower the score, the fewer questions

from that category chosen.

Table 15. Means and Standard Deviations for Category Score by Specific Confederate

Piece of Information Given

	Type of Questions Chosen			
	Abstract Positive	Abstract Negative	Concrete Positive	Concrete Negative
	M (SD)	M (SD)	M (SD)	M (SD)
Confederate Piece of Information				
Thief (N = 18)	.83 (.85)	.77 (.73)	1.77 (.80)	1.83 (1.29)
Stole Notes (N = 12)	1.00 (.87)	.89 (.78)	1.56 (1.34)	1.56 (1.13)
Shut Door (N = 9)	.89 (1.05)	1.11 (.78)	1.44 (1.30)	1.56 (1.12)
Nice (N = 12)	.83 (.72)	.92 (1.08)	2.08 (1.08)	1.56 (1.13)
Generous (N = 9)	.89 (.78)	.77 (.66)	1.88 (.78)	1.16 (1.13)
Lend Notes (N = 11)	.45 (.53)	1.00 (.63)	1.80 (.87)	1.49 (.52)
Volunteer (N = 6)	1.00 (.63)	.50 (.83)	1.15 (.54)	2.00 (1.10)

Note. Category scores could range from 0 – 4. The lower the score, the fewer questions

from that category chosen.

Behavior Outcomes: Perceived Hostility.

Interviewer Ratings. Interviewers' perceptions of their partner's hostility level were measured with four, 9-point semantic differential items: hostile/not hostile, aggressive/not aggressive, warm/cold, and friendly/unfriendly. Participants' ratings on the four hostile behavior items were averaged to form an overall hostile behavior index.

An overall Sex X Confederate Information Category Given ANOVA on interviewers' ratings of the interviewees' hostile behavior did not yield a significant interaction, F (3, 66) = 1.08, p = .36, but did result in a marginally significant main effect for Confederate Information Category Given, F (3, 66) = 2.70, p < .06, and a significant main effect for sex, F (1, 66) = 5.60, p < .05. By examining interviewer ratings of hostility displayed in Table 16, it is apparent that concrete negative information (M = 3.96, SD = 2.16) engendered the highest hostility ratings of the interviewee. Additionally, males (M = 3.50, SD = 1.65) gave higher hostility ratings to interviewees than did females (M = 2.78, SD = 1.54). A one-way ANOVA across the seven different pieces of information given (i.e., thief, nice, generous, stole notes, lent notes, shut door, volunteer) indicated that they did not produce significantly different hostility ratings by interviewers, F (6, 67) = 1.61, p = .15 (See Table17).

Table 16. Means and Standard Deviations for Hostility Perceptions by Confederate

Information Category Given

	Hostility Perceptions	
	Interviewers	Observers
	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)
Confederate Information		
Abstract Positive ($\underline{N}$ = 21)	2.68 (1.25)	3.95 (.94)
Abstract Negative ($\underline{N}$ = 18)	3.30 (1.31)	4.65 (.89)
Concrete Positive ($\underline{N}$ = 17)	2.68 (1.31)	3.73 (.75)
Concrete Negative ($\underline{N}$ = 18)	3.96 (2.16)	4.17 (1.13)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = not hostile, 9 = hostile. The

lower the score, the less perceived hostility.

Table 17. Means and Standard Deviations for Hostility Perceptions by Specific

Confederate Piece of Information Given

	Hostility Perceptions	
	Interviewers	Observers
	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)
Confederate Piece of Information		
Thief ($\underline{N}$ = 18)	3.30 (1.31)	4.65 (.89)
Stole Notes ($\underline{N}$ = 9)	3.56 (1.65)	4.88 (1.02)
Shut Door ($\underline{N}$ = 9)	4.36 (2.63)	3.46 (.74)
Nice ($\underline{N}$ = 12)	2.63 (1.24)	3.83 (.81)
Generous ($\underline{N}$ = 9)	2.75 (1.36)	4.10 (1.12)
Lend Notes ($\underline{N}$ = 11)	2.75 (1.54)	3.49 (.58)
Volunteer Study Center ($\underline{N}$ = 6)	2.54 (.84)	4.26 (.83)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = not hostile, 9 = hostile. The

lower the score, the less perceived hostility.

Observer Ratings. Interactions were also videotaped, reviewed, and coded by two independent observers for the degree to which interviewees (i.e., targets) displayed hostile behavior during the interaction. Observers' perceptions of the targets' hostility levels were measured with the same four, 9-point semantic differential items as the interviewers. Ratings from the two independent observers were averaged together to create one observer hostility score.

For observers' ratings of the interviewees' hostility level, the two-way interaction between Confederate Information Category Given and Sex was not significant, F (3, 66) =.23, p = .88, nor was there a significant main effect for Confederate Information Category Given. A significant main effect for sex was found, however, indicating that the observers considered males (M = 4.42, SD = 1.00) to be more hostile than females (M = 3.81, SD =.88, F (1, 66) = 5.82, p < .05). A one-way ANOVA of the seven pieces of information given resulted in a significant main effect for observers' hostility ratings, F (6, 67) = 3.28, p < .01. Tukey's post-hoc comparisons indicated that observers viewed the interviewees who were thought to have stolen notes (M = 4.88, SD = 1.02), as more hostile than those who were thought to have shut the door on a handicapped person (M = 3.46, SD = .74, p = .02), and who were assumed to have lent notes (M = 3.49, SD = .58, p = .03). See Tables 16 and 17 for observers' means and standard deviations.

Behavior Outcomes: Negative Perceptions.

Interviewer Ratings. The overall measure of interviewers' negative perceptions of their interaction partner was assessed by having interviewers rate 17 characteristics of their partners on 9-point semantic differential scales. Items from the hostility measure

were eliminated and the remaining 13 items were aggregated into one negative perception composite score.

A two-way ANOVA on Sex and Confederate Information Category Given yielded a significant main effect for Confederate Information Category Given on interviewers' negative perceptions of the interviewee, $F(3, 66) = 2.67$, $p = .05$, suggesting that interviewees described with the concrete negative information (i.e., stole notes, shut door) were perceived the most negatively. A one-way ANOVA comparing the seven pieces of information given produced a marginal main effect for overall negative perceptions, F (6, 67) $= 2.02$, $p = .07$. Tukey's HSD post-hoc comparisons indicated that interviewers' perceptions of the interviewee were more negative when the interviewee was described as shutting the door on a handicapped person, a concrete negative piece of information ($M =$ 4.90, $SD = 1.58$), than when described as nice, an abstract positive piece of information ($M = 3.33$, $SD = .91$ $p = .05$). Tables 18 and 19 include the means and standard deviations for negative perception ratings by Confederate Information Category Given and Specific Confederate Piece of Information Given.

Observer Ratings. To obtain an observational measure of negative perceptions of the interviewees, independent observers viewed the videotaped interactions and rated 17 characteristics of the interviewees on the same 9-point semantic differential scales used by the interviewers. Again, the hostility items were dropped and the remaining 13 ratings were averaged to produce one negative perception score. A two-way ANOVA on Sex and Confederate Information Category Given yielded no significant interaction, F (3, 66) $=$ 1.98, $p = .13$, nor was there a significant main effect for Confederate Information Category Given. A significant main effect for sex was found, however, indicating that the

Table 18. Means and Standard Deviations for Negative Perceptions by Confederate Information Category Given

	Negative Perceptions	
	Interviewers	Observers
	M (SD)	M (SD)
Confederate Information		
Abstract Positive (N = 21)	3.43 (.89)	4.78 (.83)
Abstract Negative (N = 18)	3.78 (1.18)	5.03 (.94)
Concrete Positive (N = 17)	3.52 (.93)	4.30 (.94)
Concrete Negative (N = 18)	4.43 (1.54)	4.78 (.96)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = positive perception, 9 = negative perception. The lower the score, the less perceived negativity.

Table 19. Means and Standard Deviations for Negative Perceptions by Specific

Confederate Piece of Information Given

	Negative Perceptions	
	Interviewers	Observers
	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)
Confederate Piece of Information		
Thief ($\underline{N}$ = 18)	3.78 (1.18)	5.03 (.94)
Stole Notes ($\underline{N}$ = 9)	3.97 (1.44)	5.24 (.98)
Shut Door ($\underline{N}$ = 9)	4.90 (1.58)	4.33 (.71)
Nice (N = 12)	3.33 (.91)	4.60 (.88)
Generous ($\underline{N}$ = 9)	3.55 (.90)	5.03 (.74)
Lend Notes ($\underline{N}$ = 11)	3.44 (1.12)	4.11 (.87)
Volunteer Study Center ($\underline{N}$ = 6)	3.65 (.52)	4.75 (1.03)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = positive perception, 9 =

negative perception. The lower the score, the less perceived negativity.

observers perceived males ($\underline{M}$ = 5.00, $\underline{SD}$ = .91) more negatively than females ($\underline{M}$ = 4.50,

$\underline{SD}$ = .88, $\underline{F}$ (1, 66) = 5.88, $\underline{p}$ = .02). A one-way ANOVA on the seven pieces of

information given resulted in no significant main effect for observers' negative perception

ratings, $\underline{F}$ (6, 67) = 2.15, $\underline{p}$ > .05. See Tables 18 and 19 for observers' means and standard

deviations.

Attributions for Target's Behavior.

Interviewer Ratings. Three questions relevant to internal/personality attributions

and three questions relevant to external/situational attributions for the interviewees'

behavior were answered on 9-point Likert scales (1 = not at all to 9 = totally). Internal and

external attribution scores were calculated separately by averaging the three responses for

each attribution type and analyses were conducted on these averages.

The 2 (Sex) x 4 (Confederate Information Category Given) ANOVA conducted

on interviewers' internal and external attributions for the interviewees' behavior produced

no significant interactions or main effects, $\underline{F}$s < 1. The one-way ANOVA across the seven

pieces of information given also yielded no significant effects. Creating separate abstract

and concrete categories for internal and external attributions and comparing them with a

one-way ANOVA produced a significant main effect for external attributions, $\underline{F}$ (1, 67) =

6.50, p < .05, but no significant main effect for internal attributions, $\underline{F}$ < 1. Consistent

with what one would expect based on the LIB, participants made fewer external

attributions when they were given abstract information ($\underline{M}$ = 5.36, $\underline{SD}$ = 1.45) than when

given concrete information ($\underline{M}$ = 6.00, $\underline{SD}$ = 1.71). Tables 20 and 21 include the means

and standard deviations for internal and external ratings separated by perceiver and

condition.

Table 20. Means and Standard Deviations for Internal and External Attributions by

Confederate Information Category Given

	Internal Attributions		External Attributions	
	Interviewers	Observers	Interviewers	Observers
	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)
Confederate Information				
Abstract Positive ($\underline{N}$ = 21)	6.33 (1.10)	5.59 (.94)	5.54(1.35)	4.98(.76)
Abstract Negative ($\underline{N}$ = 18)	6.39(1.16)	5.49 (.59)	5.14 (1.71)	5.09 (.76)
Concrete Positive ($\underline{N}$ = 17)	6.90 (1.01)	5.47 (.86)	6.04 (1.14)	4.96 (.76)
Concrete Negative ($\underline{N}$ = 18)	6.61 (1.14)	5.52 (.99)	5.98 (1.77)	5.04 (.93)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = low, 9 = high. The lower the

score, the less perceived internal or external attributions for behavior.

Table 21. Means and Standard Deviations for Internal and External Attributions by Specific Confederate Piece of Information Given

	Internal Attributions		External Attributions	
	Interviewers	Observers	Interviewers	Observers
	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)	$\underline{M}$ ($\underline{SD}$)
Confederate Piece of Information				
Thief ($\underline{N}$ = 18)	6.39 (1.16)	5.49 (.59)	5.14 (1.71)	5.09 (.76)
Stole Notes ($\underline{N}$ = 9)	6.93 (1.27)	5.40 (.79)	5.67 (1.20)	5.75 (.97)
Shut Door ($\underline{N}$ = 9)	6.29 (1.12)	5.67 (1.20)	5.81 (.97)	4.83 (1.26)
Nice ($\underline{N}$ = 12)	6.38 (1.16)	5.75 (.97)	5.72 (1.36)	4.95 (.66)
Generous ($\underline{N}$ = 9)	6.37 (1.35)	5.41 (.94)	5.30 (1.38)	5.02 (.91)
Lend Notes ($\underline{N}$ = 11)	6.85 (1.27)	5.52 (.80)	6.09 (1.40)	4.98 (.91)
Volunteer ($\underline{N}$ = 6)	7.00 (1.19)	5.37 (.89)	5.94 (.44)	4.97 (.48)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = low, 9 = high. The lower the score, the less perceived internal and external attributions for behavior.

Observer Ratings. Two independent coders also viewed the videotaped interactions and reported internal and external attributions for the interviewees' behavior. The reports were averaged together and separate internal and external scores were calculated.

The 2 (Sex) X 4 (Confederate Information Category Given) ANOVA conducted on independent coders' perceptions of internal and external attributions for the interviewees' behavior produced no significant interactions or main effects, Fs < 1. The one-way ANOVA across the seven pieces of information also yielded no significant effects. See Tables 20 and 21 for observer means and standard deviations.

Out-Group Perceptions. Participants reported how similar they perceived their partners to be to themselves and how likeable their partners were on 12, 9-point Likert-type scales (1 = not at all to 9 = extremely). These 12 questions were used to assess the extent to which participants perceived their partner as a potential out-group member. A composite out-group perception score was developed by aggregating the similarity and likeability scale items.

Interviewer Ratings. Analyses on the means for interviewers' perceptions of the interviewee as an out-group member yielded no significant interactions or main effects, Fs < 1.

Interviewee Ratings. Analyses on interviewees' perceptions of the interviewer yielded no significant main effects, Fs < 1. The means for interviewees' perceptions were in the predicted direction, with interviewees who were described in abstract/negative terms holding the most out-group perceptions of interviewers and those described in

abstract/positive terms the least out-group perceptions. Tables 22 and 23 include the

means and standard deviations for out-group ratings by perceivers and condition.

Table 22. Means and Standard Deviations for Out-group Perceptions by Confederate Information Category Given

	Out-group Perceptions	
	Interviewers	Interviewees
	$\underline{M}$ (SD)	$\underline{M}$ (SD)
Confederate Information		
Abstract Positive (N = 21)	3.96 (1.08)	3.73 (1.08)
Abstract Negative (N = 18)	4.06 (1.05)	4.72 (1.33)
Concrete Positive (N = 17)	3.93 (1.05)	4.07 (1.20)
Concrete Negative (N = 18)	3.88 (1.14)	4.42 (1.64)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = in-group, 9 = out-group. The

higher the score, the more out-groupness was reported.

Table 23. Means and Standard Deviations for Out-group Perceptions by

Specific Confederate Piece of Information Given

	Out-group Perceptions	
	Interviewers	Interviewees
	$\underline{M}$ (SD)	$\underline{M}$ (SD)
Confederate Piece of Information		
Thief ($\underline{N}$ = 18)	4.06 (1.05)	4.72 (1.33)
Stole Notes ($\underline{N}$ = 9)	3.79 (1.30)	4.38 (2.45)
Shut Door ($\underline{N}$ = 9)	3.97 (1.03)	4.46 (.82)
Nice ($\underline{N}$ = 12)	3.84 (1.03)	3.99 (.94)
Generous ($\underline{N}$ = 9)	4.13 (1.20)	3.38 (1.20)
Lend Notes ($\underline{N}$ = 11)	3.90 (.89)	3.91 (1.49)
Volunteer Study Center ($\underline{N}$ = 6)	4.06 (1.38)	4.35 (.26)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = in-group, 9 = out-group. The

higher the score, the more out-groupness was reported.

Interviewee's Self-Concept Measure. Interviewees' self-concept was measured with 13 semantic differential items. No interactions or main effects resulted on the interviewees' negative self-concept ratings (Fs < 2). However, the pattern of means across the four confederate information categories given indicated that the interviewees described in negative abstract terms had more negative self-concepts than interviewees described in other terms. See Tables 24 and 25 for means and standard deviations.

Table 24. Means and Standard Deviations for Interviewee Self-Concept by Confederate Information Category Given

	Self-Concept Interviewee
	M (SD)
Confederate Information	
Abstract Positive (N = 21)	3.49 (.66)
Abstract Negative (N = 18)	3.63 (.90)
Concrete Positive (N = 17)	3.00 (.70)
Concrete Negative (N = 18)	3.19 (.67)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = positive, 9 = negative. The higher the score, the more negative self-concept.

Table 25. Means and Standard Deviations for Interviewee Self-Concept by

Specific Confederate Piece of Information Given

	Self-Concept Interviewee
	M (SD)
Confederate Piece of Information	
Thief (N = 18)	3.63 (.90)
Stole Notes (N = 9)	3.79 (.66)
Shut Door (N = 9)	3.35 (.56)
Nice (N = 12)	3.36 (1.75)
Generous (N = 9)	3.60 (1.19)
Lend Notes (N = 11)	2.97 (.69)
Volunteer Study Center (N = 6)	3.06 (.78)

Note. Ratings were made on a 1 – 9 Likert-type scale, 1 = positive, 9 = negative. The

higher the score, the more negative self-concept.

Correlations Between Measures. The correspondence among question choice,

perceptions, behavioral outcomes, attributions, and self-concept was examined to

determine if any pattern of confirmation bias could be detected among the dependent

variables (See Table 26). Although question choice and attributions did not yield a

coherent pattern of relationships with the other dependent variables, the other variables

were positively correlated with one another. Interviewers' overall perceptions of

interviewees' hostility level was correlated with their negative perceptions of the

interviewee (r = .75, p < .01), perceptions of the interviewee as an out-group member (r =

.55, p < .05), and, in turn, interviewees' out-group perceptions of the interviewer (r = .29,

p < .01). When examining these correlations separately by the four language categories

given, the positive correlations among these variables were clearest and strongest within

the abstract negative condition (See Table 27).

Table 26. Correlations for All Dependent Variables Across All Conditions

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Question Choice															
1 Abstract Positive	1.00														
2 Abstract Negative	-.13	1.00													
3 Concrete Positive	-.33**	-.48**	1.00												
4 Concrete Negative	-.51	-.53	-.22	1.00											
Hostility Perceptions															
5 Interviewer	.11	.08	-.04	-.04	1.00										
6 Observer	.03	-.12	.09	.49	-.12	1.00									
Negative Perceptions															
7 Interviewer	.19	.20	-.22	-.19	.75**	-.03	1.00								
8 Observers	.03	-.12	.09	.49	-.12	.74**	.09	1.00							
Internal Attributions															
9 Interviewer	.16	.01	-.09	-.24	-.13	-.11	-.21	-.11	1.00						
10 Observer	-.34**	-.03	-.16	-.08	.06	-.18	-.03	-.07	.12	1.00					

Table 26. Continued

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
External Attributions															
11 Interviewer	.12	.00	-.12	-.12	.04	.00	.02	-.01	.13	.10	1.00				
12 Observers	.33	-.02	.17	.12	-.04	.11	-.16	-.06	.12	-.73**	-.02	1.00			
Out-group Perceptions															
13 Interviewer	-.09	-.05	-.23	.01	.30*	.04	.23*	.04	-.17**	-.14	-.08	.08	1.00		
14 Interviewee	-.05	.00	.25*	-.05	.29**	.08	.54**	.10	-.38***	-.08	-.04	.05	.20	1.00	
15 Self-Concept	.17	-.03	.00	-.15	.14	-.03	.12	.12	.24	-.09	.06	-.02	.18	.23	1.00

Note. * = p < .05, ** = p < .01.

Table 27. Correlations for All Dependent Variables for Abstract Negative Confederate Category Given

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Question Choice															
1 Abstract Positive	1.00														
2 Abstract Negative	-.34	1.00													
3 Concrete Positive	-.31	-.38	1.00												
4 Concrete Negative	-.58**	-.48	.53**	1.00											
Hostility Perceptions															
5 Interviewer	-.12	.40**	-.01	-.01	1.00										
6 Coder	.57**	.35	-.55	.55	.31	1.00									
Negative Perceptions															
7 Interviewer	.17	.38**	-.17	-.14	.75**	.21	1.00								
8 Observers	.18**	.57	-.30	.03	.02	.65**	.13	1.00							
Internal Attributions															
9 Interviewer	.22	-.42	.32	.89	.04	-.01	-.62**	.05	1.00						
10 Observer	.53	-.18	.00	-.36	-.35	.08	-.27	.11	.56	1.00					

Table 27. Continued

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
External Attributions															
11 Interviewer	.03	-.03	.25	.96	-.08	.27	.19	.60	-.20	-.39	1.00				
12 Observers	-.08	-.10	.05	.12	.30	-.33	.11	-.61	-.21	-.28	.37	1.00			
Out-group Perceptions															
13 Interviewer	-.13	.22	.09	-.70	.15	.28	.45*	-.03	-.33	-.34	.05	.21	1.00		
14 Interviewee	-.22	.24	-.18	.75	.28	.20	.65**	.17	.53**	-.15	.29	-.06	.04	1.00	
15 Self-Concept	.18	.32	.11	-.29	.14	.20	.39**	.38	-.03	.10	.11	.01	.33	.26	1.00

Note. * = $p < .05$, ** = $p < .01$.

Discussion of Experiment 2

The purpose of the second experiment was to determine if the language of the LIB influences behavior during interpersonal interaction, thus producing a self-fulfilling prophecy. For the most part, the data collected in this experiment did not support this supposition, and the pattern of results that did must be interpreted with caution. The manipulation failed to produce the question choices that it was intended to produce, therefore any results can not be interpreted as a direct self-fulfilling prophecy resulting directly from the language of the LIB.

Although the manipulation did not produce the question choice as intended, it is plausible that the interviewers may have carried expectations about the interviewee into the interview setting as a result of the information that was delivered by the confederate. Specifically, those who were described in negative abstract terms tended to perceive their partner as an out-group member and reported more negative self-concepts than those who were described with abstract positive information. Furthermore, a fairly strong pattern of correspondence between negative perceptions and behavioral variables was found, particularly in the negative abstract condition. Inconsistent with predictions however, concrete negative information led to the highest hostility ratings and negative perceptions. The patterns of results for the other dependent measures were either uninterpretable or inconsistent with predictions. Although the initial hypotheses that abstract negative information about an interaction partner would cause more negative perceptions and behavior than other types of information were not generally supported, some of the findings are noteworthy and warrant further discussion.

Altogether, the results from this study are difficult to interpret because participants did not select interview questions consistent with the type of information they were given about the interviewee by the confederate. Participants tended to select concretely-worded questions overall. It is possible that interviewers were more focused on the interview environment and more concerned with the interview situation than the piece of information they were given about their partners. This concern may have led them to ask more specific questions in an effort to make the interviewee feel more comfortable by choosing concrete questions that encouraged personal self-disclosure. Selecting more concrete than abstract questions may have had an influence on the subsequent dependent variables. It is possible that the correct questions were not selected because the manipulation did not work. Perhaps the interviewers did not believe the confederate or were not influenced by the piece of confederate information given. Even though all participants were questioned for suspicion and were asked to recall the piece of information, they were not questioned about whether or not they believed the information. It may be that, although they were not suspicious of the confederate, they did not believe the information that was delivered, and thus it had no effect on their question choice.

Question choice may have had a pivotal role in the subsequent interview, affecting the other dependent variables. To determine the role of question choice on the subsequent behavioral measures during the interview, a post hoc analysis was conducted by using the valence and language abstraction of the questions that interviewers did choose to use in the interview as a new category for looking at the dependent variables. For example, participants who chose more abstract positive questions were regrouped into an abstract positive category that ignored the original grouping based on the piece of confederate

information given. The regrouping analysis did not yield any significant results, indicating that valence and level of abstraction of the interview questions chosen did not have an effect on subsequent interview interactions. Although the language of the LIB did not have an impact on question choice directly, and question choice did not seem to impact the other measures, the specific confederate piece of information given may have had an indirect effect on the behavioral outcome measures that followed after the question choice measure.

For the behavioral outcome measures, the interviewees who were rated as most hostile and perceived most negatively by the interviewers were in the concrete negative condition. One possible reason for this finding might be that the personal involvement required by the interview and the immediacy of the interview environment affected interviewer responding. Traditional studies of the LIB use pictorial layouts and then assign levels of abstraction in written format. Therefore, the behaviors that are described occur neither in the participant's immediate situation nor in relation to the individual participating in the LIB research. In the present study, however, the language of the LIB was delivered orally and was personally involving. Furthermore, in the concrete negative condition, the interviewers were aware that the individuals with whom they were interacting had recently engaged in the specific negative behavior, just before the interview took place. For these reasons, the concrete negative behavioral instances might have been more realistic and had more of an impact on the interviewers' perceptions of the interviewee in the interaction than did abstract negative information. In attribution theory, negative information is more salient and is subject to being the focus of attention (Green, Lightfoot, Bandy, and Buchanan, 1985). In this study, interviewers did not know

each other initially. It is possible that they chose concrete negative questions because such behaviors are still subject to change. In other words, interviewers were in the process of forming impressions about interviewees so they chose behaviors that were obvious and were subject to change.

Interestingly, independent observers rated interviewees in the abstract negative condition as more hostile and perceived them more negatively than participants in all other conditions. This finding is in line with the initial hypotheses and indicates that independent observers detected a behavioral confirmation bias in the abstract negative condition. In contrast, the results were not in the hypothesized direction when assessed by the interviewers who were acting in the situation. This finding suggests that, although the actors in the situation were not aware that the manipulated information had an effect on behavior, observers did note behavioral implications. In this respect, hearing abstract negative language may lead individuals to interact with others in a way that elicits increased hostility and negativity even if those individuals are unaware of the outcome.

As mentioned earlier, one dependent measure that indicated a pattern of means consistent with the hypotheses for abstract negative information was the out-group ratings as reported by the interviewee. This measure is important to note because interviewee perceptions are part of the framework of the self fulfilling prophecy that was described in the initial hypotheses. Although it was originally anticipated that the interviewee would be directly exposed to the LIB by the questions asked by the interviewer, interviewers did not select questions based on the LIB information they received. However, the description the interviewers received could have created expectations that manifested themselves in behaviors that affected the interviewee. Interestingly, this is the only dependent measure

assessed in Experiment 2 that is indicative of an in-group/out-group variable. The experiment sought to take the LIB out of a group context in an effort to determine the behavioral effects of the bias alone. It might be the case that the LIB only affects behavior in intergroup contexts. Specifically, abstract negative information in an intergroup context is related to existing out-groups in relation to the in-group. It might be that in order for the language of the LIB to have a behavioral effect, the out-group must be made salient and then the negative information given. Specifically, an explicit out-group distinction must be clear before the behavioral description is delivered in order to achieve a language choice effect. That is, the LIB might affect the behavior of individuals only when there are salient in-group and out-group boundaries present in the situation. One possible reason that this trend did not reach significance is that the sample was comprised of college students who may perceive themselves as a collective in-group as opposed to separate out-groups. In this respect, the manipulation may not have been strong enough to break down the college students' perceptions of their partner as a member of this collective group.

Both theoretical concerns relevant to the LIB itself and methodological issues relevant to the way in which this experiment was conducted may have contributed to the overall lack of significant findings. In relation to theoretical concerns, this study attempted to take the LIB research from pen and paper measures to actual behavioral interactions. It may be the case that the LIB is a bias that is restricted to particular measures or situations and its implications cannot be measured in the manner attempted in this study. The present study sought to remove already existing group labels to determine if the actual language of the LIB could create in-group and out-group

distinctions. However, the actual language of the LIB might best be understood in the context of distinct in-groups and out-groups that are identifiable and visible. Additionally, the LIB may be a bias that results as a reaction to group distinctions rather than a bias that creates them.

Regarding the methodological concerns, the sample of college students, while utilized by the majority of researchers, could have led to problems in the context of the study. The classic research into the LIB (Maass et al, 1989) did not use a college student sample, but rather a sample of Northern and Southern Italians with participants from each region who held the other in low regard. Although some LIB studies have been conducted with a college population, the nature of those studies was different from the present research. In regard to the present research, the abstract/concrete information may have been too closely related to college experiences, inadvertently causing students to react differently to the language of the LIB than previous LIB research would suggest.

Other plausible methodological flaws could have been the limited number of questions chosen, and the abbreviated length of the interaction. When the study was designed, the five-question limit was placed to ensure that the interactions would not be too lengthy. It may be that, due to the restricted length, participants tried to balance their questions between positive/negative and abstract/concrete. It is possible that interviewers were focused on the interview environment and were concerned with the interview situation more than the piece of information they were given, which may have led them to ask more specific questions in an effort to make the interviewee feel more comfortable and to create a sense of friendship by attempting to encourage personal self-disclosure. Participants' interactions tended to last 10-15 minutes, a relatively short amount of time.

As a result, when interviewers were reporting on attributions they may have had insufficient information to make their decisions.

CONCLUSION

The overall purpose of the present research was to examine further how the LIB perpetuates stereotypes and to determine the potential behavioral implications of the LIB. First, the impact of the language associated with the LIB on exacerbating group boundaries and perpetuating stereotypes was investigated. Second, the effects of the LIB and its inherent expectations on behavior was examined, specifically whether the LIB would lead to behavioral confirmation. Although not all of the hypotheses were supported, the project offered new insights into how the LIB works, and pointed to new directions for future research that might be beneficial in further illuminating the processes involved with the LIB.

In the first experiment, the language of the LIB was demonstrated to increase group categorization, but only in regard to the Elderly and Asians. The bipolar nature of the stereotypes of both the Elderly and Asians could be an interesting avenue of study in conjunction with the LIB. Looking at how individuals respond to the language of the LIB in situations where there are double standards for acceptable responses would advance our current understanding of how the LIB operates. It is possible that different situations described in the language of the LIB could elicit different degrees of positive/negative stereotype activation for groups for which ambivalent stereotypes exist, in that the LIB may play a role in activating and perpetuating the bipolar nature of the stereotypes. In a more applied sense, it would be interesting to examine further the language of the LIB as it relates to written statements and the assignment of behaviors to members of various groups. For example, one interesting possibility for further assessing the link between the language of the LIB and categorization would be a study examining how individuals

assign written feedback to others. Feedback could be created containing varying levels of abstraction and valence. Participants could be given the chance to read over various feedback reports and then asked to assign the report to one of five targets who might be presented pictorially. It would be interesting to see which type of feedback was assigned to which out/in-group based on the language of the LIB. One could vary the valence and level of abstraction in order to determine what combinations of positive/negative and abstract/concrete lead to increased categorization of others.

In regard to the behavioral implications of the LIB, although the data in Experiment 2 demonstrated few, if any, behavioral consequences of the language relevant to the LIB, this research area should not be abandoned. It is important for future research with the LIB to continue to determine the effect of the bias in practical settings. Past research has demonstrated that the LIB is a bias that spans cultures and that plays a role in increasing and perpetuating stereotypes on paper. It is important for future research to continue to address the behavioral implications of the bias in an effort to examine how and whether the LIB impacts interpersonal interactions. It is also important for future research to include samples that reach beyond the college population. Using samples outside of the university would provide a more realistic look at the LIB and also allow for the assignment of salient in-groups and out-groups.

As with previous studies of the LIB, support for the existence of the bias and its application were found in relation to categorization. Less support was obtained for the impact of the language of the LIB on behavioral interactions. These findings are informative, and raise many questions about the nature of the LIB. It is hoped that these

studies in combination will serve to create research interest in the LIB and its relationship to both social categorization and behavior.

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APPENDICES

Appendix A

Stimulus Sentences

Please read the following sentences. After you have read the sentences turn to the next page and follow the directions.

Kevin is honest.

Steve is irresponsible.

Mike gave a lost woman directions to her destination.

Mark pushed someone in the hallway.

Rob is reliable.

Jeff is mean.

Ed helped his neighbor carry laundry up the stairs.

John stole a CD from a record store.

Appendix B

Experiment 1: Manipulation Check

Please look at the photographs below. Please circle the group that BEST represents the photograph to the left.

	Alternative	Asian	Black	Elderly	White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Appendix B (cont.)

Experiment 1: Manipulation Check

Please look at the photographs below. Please circle the group that BEST represents the photograph to the left.

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Old   White

Alternative   Asian   Black   Elderly   White

Alternative   Asian   Black   Elderly   White

Appendix C

Group Measure

We are all members of different social groups or social categories. Some of these social groups or categories pertain to *gender, race, religion, nationality, ethnicity,* and, *socioeconomic class.* We would like you to consider your memberships in those particular groups or categories, and respond to the following statements on the basis of how you feel about those groups and your memberships in them. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully, and respond by using the following scale:

1	2	3	4	5	6	7
strongly disagree	disagree	somewhat disagree	neither agree nor disagree	somewhat agree	agree	strongly agree

1. In general, my group memberships have very little to do with how I feel about myself. *

   Strongly   1   2   3   4   5   6   7   Strongly
   Disagree   Agree

2. The social groups I belong to are an important reflection of who I am.

   Strongly   1   2   3   4   5   6   7   Strongly
   Disagree   Agree

3. The social groups that I belong to are unimportant to my sense of what kind of person I am. *

   Strongly   1   2   3   4   5   6   7   Strongly
   Disagree   Agree

4. In general, belonging to social groups is an important part of my self-image.

   Strongly   1   2   3   4   5   6   7   Strongly
   Disagree   Agree

* Items reverse coded

Appendix D

Forced Choice Matching Scale and Stimulus Photographs

This task is a bit like a matching task. For the sentences you just read, we want you to indicate which of the following individuals in the photos below performed which of the behaviors. In the blank next to each sentence, write in the letter of the photo that corresponds with who you think did the behavior. Each sentence must be paired with only one of the pictures.

Kevin is honest. _____

Mike gave a lost woman directions to her destination. _____

            A   B

Rob is reliable. _____

Ed helped his neighbor carry laundry up the stairs. _____

            A   B

Steve is irresponsible. _____

John yelled at someone in the hallway. _____

            A   B

Jeff is mean. _____

Mark stole a CD from a music store. _____.

            A   B

Appendix D (cont.)

Forced Choice Matching Scale and Stimulus Photographs
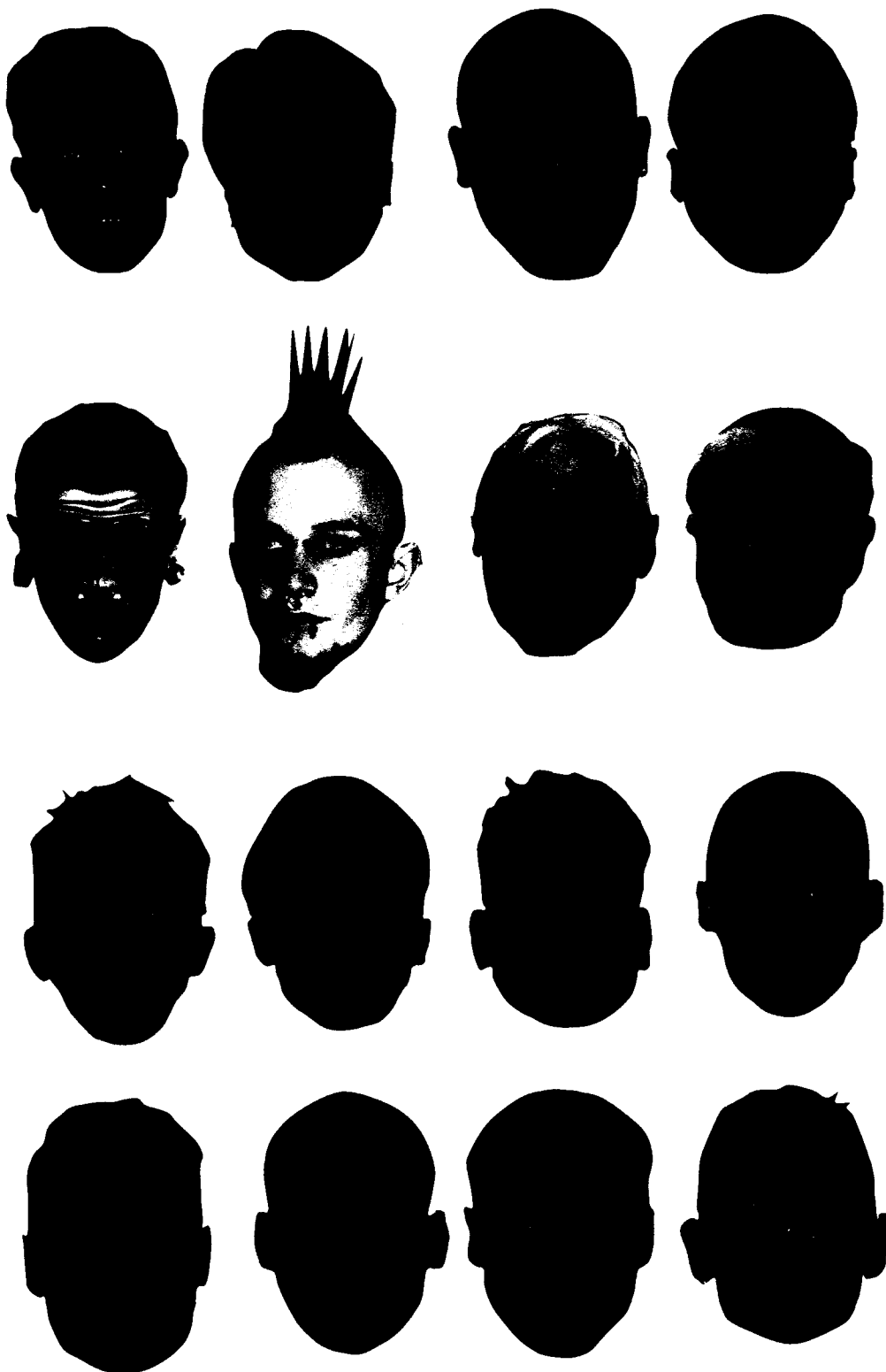
Appendix E

Manipulated Information About Partner

ABSTRACT POSITIVE

S(he) is a really generous person.

S(he) is really nice.

ABSTRACT NEGATIVE

S(he) is a thief.

S(he) is really mean.

CONCRETE POSITIVE

S(he) just came from volunteering at the Child Study Center.

S(he) let me borrow her/his notes from class.

CONCRETE NEGATIVE

On the way up here I saw her/him shut the door on a handicapped person.

S(he) stole my notes from class.

<center>**Appendix F**</center>

<center>**Experimenter/Confederate Scripts**</center>

Experimenter Script for Interviewer

Hi how are you doing today? Thank you for participating in our research experiment on college dating relationships. We are looking for general information about college dating. It has been determined that the best way to get the information we need is to conduct an interview. Therefore, you will participate in an interview on dating. One of you will be the interviewer and ask questions and the other will answer them. Your interaction will be video taped. I need you to read and sign this consent form and fill out this demographic sheet before we begin. Thank you. Now, I have two slips of paper here in my hand. To determine who will be the interviewer and who will be the one interviewed. I need you to pick one and tell me what it says.

Ok great, you are the interviewer and your partner will be the interviewee. I am going to take you to a room where I will provide further instructions. (At this point they were taken to a separate room.) You signed up in pairs and in a few minutes you will meet your partner. Her/His name is _____. (At this moment the confederate who was already in the room made a noise indicating that she knew the individual) Because the experiment is going to be done in an interview format, I am going to give you a list of questions, and you are to pick five questions that you wish to ask your partner from the list. Once you pick the five questions, circle the ones you are going to ask. We are having you pick five because there is only a limited time for the interaction. Please do not forget to circle the questions that you are going to use. While you are reading over and selecting questions, I am going to go and wait for your partner to arrive and have them fill out some biographical information, since s(he) will be answering the questions, we need some extra information about him/her. After you have chosen your questions, you will meet each other and you will ask the questions you have chosen.

(Interviewer left the room at this point and the confederate delivered the false piece of information. After a few minutes passed the interviewer returned to the room.)

Ok, have you chosen the questions you would like to ask? Great, if you would just give me the paper. Thank you. Now I am going to give you some questions to answer about yourself while I go prepare for the interview. Before you ask the dating questions, it is important that you "break the ice" with your partner so, you will introduce yourself to your partner by telling him/her the answers that you provided to the general questions. Following your introduction, in order to get to know your partner, you will ask him/her the same questions in return. Here is the paper with the information questions, take a few minutes to think about and fill them out.

Appendix F (cont)

Experimenter/Confederate Scripts

Experimenter Script for Interviewee

Hi how are you doing today? Thank you for participating in our research experiment on college dating relationships. We are looking for general information about college dating. It has been determined that the best way to get the information we need is to conduct an interview. Therefore, you will participate in an interview on dating. One of you will be the interviewer and ask questions and the other will answer them. Your interaction will be videotaped. You signed up in pairs and in a few minutes you will meet your partner. Your partner arrived a few minutes ago and is currently in the other room filling out some surveys. As I explained before there will be a taped interaction in which one of you is the interviewer and the other the interviewee. Please pick a piece of paper from my hand and tell me what it says. OK, you are the interviewee.

I am going to have you read and sign the informed consent form and an informational form and then we will get started. I will be back in a few minutes and then we will begin the interview. Since you are the interviewee, you will be responding to questions that your partner will ask you.

(The experimenter left the room and gave the interviewee some time to fill out his/her forms. Then when it was time for the interview the experimenter returned to collect the interviewee.)

I know that this situation is a bit unusual and somewhat awkward. However, with research on college dating the more you elaborate on your answers, the more information we are going to collect and analyze. I encourage you to think about each question and then answer it as thoroughly as possible.

Confederate Script

Remember to make a noise when the name is mentioned.

Hey, I know this may seem odd, but I just wanted to tell you that I know "Partners Name". And just between you and me, **(She/He just got back from volunteering at the child study center).** Once the information was delivered, the confederate left the lab through one door and entered through a different door to wait for the debriefing.

Appendix G

Experiment 2: Manipulation Check

When you arrived in the lab today, you were put in a room with a woman who was finishing up an experiment. She told you something about your partner. In the space provided below, please write down what you remember her telling you about your interview partner.

Appendix H

Dating Questions

Abstract Positive
What role does trust play in your romantic relationships?

How generous are you in romantic relationships?

How reliable are you in romantic relationships?

In general, how happy are your romantic relationships?

How romantic are you?

Abstract Negative
How selfish are you in your romantic relationships?

In general, how jealous are you in romantic relationships?

How hostile are you towards your ex-partners?

Would you consider yourself a manipulative partner?

Why is it difficult for you to be open in relationships?

Concrete Positive
What do you do to let someone know that you are interested in dating him or her?

What are the two major contributions you bring to a relationship?

What three attributes make you most attractive to a romantic partner?

What was the best present you ever gave a romantic partner?

What is something you do to make a partner happy?

Concrete Negative
Tell me about a lie you have told in a romantic relationship.

What topic do you not like to discuss with a romantic partner?

Give an example of a silly argument topic you have fought about.

Have you ever snooped around in a girl/boyfriend's possessions?

Describe an instance when you shouted at a romantic partner?

Appendix I

Pre-Interview Questions

In a few minutes, you will be conducting an interview with your partner. You have already chosen the dating questions that you will ask your partner. We would like you to take a few minutes to fill out the following information about yourself. When the interview begins, you will introduce yourself to your partner by telling him/her the information that you provide below. Following your introduction, before you ask the dating questions, you will ask the same introduction questions to your partner.

Introduction Questions

1. What is your name?

2. Where did you grow up?

3. What year in school are you?

4. What is your major?

5. Why did you choose to come to UMO?

6. What is your favorite TV show?

7. Describe yourself.

Appendix J

Interviewer's Perceptions

We would like to know your perceptions of the person you just interacted with. Each item listed below consists of a pair of characteristics. For each pair, please indicate which characteristic was more true of that person during the videotaped interaction. Make your ratings on each trait pair by circling the number on the scale that best reflects your perception. For example:

Artistic   1   2   3   4   5   6   7   8   9 Not at all artistic

Given that each pair describes contradictory characteristics, you must choose a number on the scale between the two extremes. If you think the person was not artistic at all you would circle "9". If you think the person was slightly artistic, you would circle "6". If extremely artistic, you would circle "1".

Please answer quickly, giving your first impression, and honestly. Neither your partner nor the experimenter will see your responses.

Talkative	1	2	3	4	5	6	7	8	9	Quiet
*Unsociable	1	2	3	4	5	6	7	8	9	Sociable
Friendly	1	2	3	4	5	6	7	8	9	Unfriendly
*Hostile	1	2	3	4	5	6	7	8	9	Not hostile
Poised	1	2	3	4	5	6	7	8	9	Awkward
Extroverted	1	2	3	4	5	6	7	8	9	Introverted
Enthusiastic	1	2	3	4	5	6	7	8	9	Apathetic
Outgoing	1	2	3	4	5	6	7	8	9	Shy
Energetic	1	2	3	4	5	6	7	8	9	Relaxed
Warm	1	2	3	4	5	6	7	8	9	Cold
*Deceitful	1	2	3	4	5	6	7	8	9	Honest
Confident	1	2	3	4	5	6	7	8	9	Not Confident
Intelligent	1	2	3	4	5	6	7	8	9	Unintelligent
*Competitive	1	2	3	4	5	6	7	8	9	Cooperative
*Incompetent	1	2	3	4	5	6	7	8	9	Competent
*Untrustworthy	1	2	3	4	5	6	7	8	9	Trustworthy
*Aggressive	1	2	3	4	5	6	7	8	9	Not aggressive

* items reverse coded

Appendix K

Independent Observer's Perceptions

We would like to know your perceptions of the person you watched on the video. Each item listed below consists of a pair of characteristics. For each pair, please indicate which characteristic was more true of that person during the videotaped interaction. Make your ratings on each trait pair by circling the number on the scale that best reflects your perception. For example:

Artistic   1   2   3   4   5   6   7   8   9   Not at all artistic

Given that each pair describes contradictory characteristics, you must choose a number on the scale between the two extremes. If you think the person was not artistic at all you would circle "9". If you think the person was slightly artistic, you would circle "6". If extremely artistic, you would circle "1".

Please answer quickly, giving your first impression, and honestly. Neither your partner nor the experimenter will see your responses.

Talkative	1	2	3	4	5	6	7	8	9	Quiet
*Unsociable	1	2	3	4	5	6	7	8	9	Sociable
Friendly	1	2	3	4	5	6	7	8	9	Unfriendly
*Hostile	1	2	3	4	5	6	7	8	9	Not hostile
Poised	1	2	3	4	5	6	7	8	9	Awkward
Extroverted	1	2	3	4	5	6	7	8	9	Introverted
Enthusiastic	1	2	3	4	5	6	7	8	9	Apathetic
Outgoing	1	2	3	4	5	6	7	8	9	Shy
Energetic	1	2	3	4	5	6	7	8	9	Relaxed
Warm	1	2	3	4	5	6	7	8	9	Cold
*Deceitful	1	2	3	4	5	6	7	8	9	Honest
Confident	1	2	3	4	5	6	7	8	9	Not Confident
Intelligent	1	2	3	4	5	6	7	8	9	Unintelligent
*Competitive	1	2	3	4	5	6	7	8	9	Cooperative
*Incompetent	1	2	3	4	5	6	7	8	9	Competent
*Untrustworthy	1	2	3	4	5	6	7	8	9	Trustworthy
*Aggressive	1	2	3	4	5	6	7	8	9	Not aggressive

* items reversed coded

Appendix L

Attribution Measure

Please answer the following questions by circling the response that best describes your answer. Please be honest. Your interview partner will not see your responses.

1. To what extent was the other participant's performance during the interview due to the requirements of the role he/she was playing?

   1---------2---------3---------4---------5---------6---------7--------8---------9
   not at all   undecided   totally
   due role   due to role

2. To what extent was the other participant's behavior due to some aspect of his/her personality?

   1---------2---------3---------4---------5---------6---------7--------8---------9
   not at all   undecided   totally
   due to personality   due to
                                                                        personality

3. To what extent was the other participant's behavior due to some aspect of the situation?

   1--------2---------3---------4---------5---------6---------7--------8---------9
   not at all   undecided   totally
   due to the situation   due to the
                                                                        situation

4. To what extent was the other participant's behavior due to some aspect of his/her character?

   1--------2---------3---------4---------5---------6---------7--------8---------9
   not at all   undecided   totally
   due to character   due to
                                                                        character

5. To what extent was the other participant's behavior during the interview due to the difficulty of what he/she was asked to do?

   1---------2---------3---------4---------5---------6---------7--------8---------9
   not at all   undecided   totally
   due to the   due to the
   task difficulty   task difficulty

6. To what extent was the other participant's behavior during the interview due to the "way he/she is?"

   1---------2---------3---------4---------5---------6---------7--------8---------9
   not at all   undecided   totally
   due to the   due to the
   way he/she is   way he/she is

Appendix M

In-group/Out-group Measure

The following questions pertain to a variety of aspects about the interview you just completed. Please respond to each statement by circling the number that corresponds with your true feelings. Your answers are confidential and anonymous. Therefore, please answer all questions as honestly as possible.

1) How much effort did you put into performing the task?

1----------2----------3----------4----------5----------6----------7----------8--------9
no effort   undecided   very much
at all   effort

2) How pleasant was the other participant's behavior during the task?

1----------2----------3----------4----------5----------6----------7----------8--------9
extremely   undecided   extremely
unpleasant   pleasant

3) How similar is the other participant to you?

1----------2----------3----------4----------5----------6----------7----------8--------9
extremely   undecided   extremely
dissimilar   similar

4) How likely would you be to invite the other participant to a party with your friends?

1----------2----------3----------4----------5----------6----------7----------8--------9
very   undecided   very
likely   unlikely

5) If you were given a choice, how much would you want to work with the same participant on future tasks?

1----------2----------3----------4----------5----------6----------7----------8--------9
very much   undecided   not at all

6) How similar are you to the other participant?

1----------2----------3----------4----------5----------6----------7----------8--------9
extremely   undecided   not at all
similar   similar

7) How similar is the participant to your closest friends?

1----------2----------3----------4----------5----------6----------7----------8--------9
extremely   undecided   extremely
dissimilar   similar

Appendix M (cont.)

In-group/Out-group Measure

8) How likely would you be to introduce the other participant to your friends?

1----------2-----------3----------4-----------5----------6----------7----------8-------9

extremely   undecided   extremely

likely   unlikely

9) How pleasant was your own behavior toward the other participant during the interaction?

1----------2-----------3----------4-----------5----------6----------7----------8-------9

extremely   undecided   extremely

unpleasant   pleasant

10) How enjoyable was the interaction?

1----------2-----------3----------4-----------5----------6----------7----------8-------9

extremely   undecided   extremely

unenjoyable   enjoyable

11) How much do you like the other participant?

1----------2-----------3----------4-----------5----------6----------7----------8-------9

not at all   undecided   very much

12) How likely would you be to choose the other participant as a roommate?

1----------2-----------3----------4-----------5----------6----------7----------8-------9

very   undecided   very

likely   unlikely

BIOGRAPHY OF THE AUTHOR

Virginia Ann Cylke was born in Washington, DC on August 4, 1975. She was raised in Great Falls, Virginia and graduated from Georgetown Visitation Preparatory School for Women. She attended Saint Vincent's College, Latrobe, PA and graduated in 1998 with a Bachelor's degree in Psychology. She entered the Social Psychology Graduate program at The University of Maine in the fall of 1998.

After receiving her degree, Virginia will be moving to Sweet Briar, Virginia where she will be teaching at Sweet Briar College. Virginia is a candidate for the Doctor of Philosophy degree from The University of Maine in August, 2003.