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The Linguistic Intergroup Bias: Are Differential
Expectations Moderated by Social Identity
Concerns?

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Susan Elizabeth Harris

has been accepted towards fulfillment
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Ph.D. degree in Psychology


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**THE LINGUISTIC INTERGROUP BIAS: ARE DIFFERENTIAL EXPECTATIONS
MODERATED BY SOCIAL IDENTITY CONCERNS?**

By

Susan Elizabeth Harris

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

DOCTOR OF PHILOSOPHY

Department of Psychology

1998

ABSTRACT

THE LINGUISTIC INTERGROUP BIAS: ARE DIFFERENTIAL EXPECTATIONS MODERATED BY SOCIAL IDENTITY CONCERNS?

By

Susan Elizabeth Harris

The current set of studies investigated the role of social identity concerns and differential expectancies on the linguistic intergroup bias. In study 1, 143 college students (45 male and 98 female) were randomly assigned to a competition or no competition condition. Competition was manipulated by telling participants that their performance on a memory task would allow their group to leave the session earlier than the other group. No competition participants were given the same task, but performance was not connected to consequences of any kind. Social identity and differential expectancies make different predictions about the use of biased language under competitive conditions. None of the hypotheses were supported by the results. It may be the case that the competition manipulation had an unintended effect on participants that interfered with predicted psychological processes.

The second study investigated the potential interplay of both social identity and differential expectancies and their combined impact on language biases toward in-group and out-group members. Two hundred and fifty-six college students (73 male and 183 female) were given information that lead them to believe that the university they attended was going to begin offering

scholarships to senior citizens to diversify the student body. In the competition condition participants were told that financial aid would be cut for traditional students, while the no competition participants were explicitly told that financial aid for traditional would not be affected. Both competition and no competition participants displayed linguistic biases, but only when the target's behavior was typical of the target group. The results indicate that linguistic biases are moderated by typicality and this moderation is in line with an explanation based on differential expectancies.

This dissertation is dedicated to my dear friend, and mentor:
Raymond J. Risky
1943 - 1997

ACKNOWLEDGEMENTS

While the writing of a dissertation is a very solitary activity, this work could not have been completed without the help and encouragement of several people. I would like to thank first and foremost the members of my committee and the Social Personality interest group at Michigan State University. An extra special thanks goes out to my advisor, Norbert Kerr, who tried to steer me away from as many blind alleys as possible and continued to believe in my abilities even when I didn't. I would also like to thank the SpigKids past and present who kicked my butt when I needed it and took me out for drinks when I needed it -- Carole Hodge, Jen Garst, Donna Lewandowski, Todd Nelson, Mike Winters, Ruth Fleury, Keith Niedermeier, Peggy Chin, Amani El-Alalyi.

A special thanks goes out to my research assistants, without their hard work and dedication I'd still be running subjects and coding data until the cows came home -- Christopher Paul, Sonya Choudury, and Tim Harding. I would also like to thank the clerical staff in the Department of Psychology at Michigan State University, these wonderful folks make this place run smoothly -- most especially, Suzy Pavick.

Finally, I have to give thanks for my friends and family who put up with me all these years saying, "I'm working on my dissertation (a little book report)."

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Introduction

The study of language in social psychology is a fairly new field of study. While some researchers have bemoaned the lack of attention paid to language in psychology for quite a while (e.g. Miller, 1990), the transformation of language in social psychology into a legitimate sub-discipline has occurred within the last two decades. The area of language and social psychology is interdisciplinary, attracting researchers from social psychology (both psychological and sociological branches), communications, and linguistics. While this sub-discipline is relatively young it is growing and expanding, as evidenced by the spate of recent work that has been published addressing the growth of the field (e.g. Giles & Wiemann, 1993; Maass & Arcuri, 1996; Semin & Fiedler, 1992). Recently, a good deal of interest has focussed on the role of language in intergroup interactions and in stereotyping processes (e.g. Maass, Salvi, Arcuri & Semin, 1989; Maass & Arcuri, 1992; Maass & Arcuri, 1996).

The importance of language in our everyday interactions is undisputed. Language carries a good deal of the burden of our social interactions. It conveys our hopes, fears, and dreams to others. Language is one of the vehicles that communicates how we view other social groups, as well as our own. It is already well established that social groups tend to form their own forms of communications that exclude those who are not part of the group (e.g. Van Dijk, 1987). Professional groups have their jargon, fraternities and sororities have their slang, and geographic regions have their dialects. All of

these forms of language make it difficult for those outside the group to communicate with members of the group in question. So, language is one way to demarcate the boundaries of social groups.

Language can also be used to bolster one's social groups against other groups. Although this process is less well understood than language as a marker of social boundaries, it appears that language can be used to subtly derogate out-groups and enhance in-groups (e.g. Maass, et al., 1989; Perdue, Dovidio, Gurtman & Tyler, 1990). Perdue and his colleagues found that pronouns that mark in-groups (e.g. we, us) and out-groups (e.g. they, them) could reliably prime categorization and recognition of positive and negative trait terms. In-group pronoun primes facilitated recognition of positive traits, while out-group pronoun primes facilitated recognition of negative traits. So, the use of language associated with different social groups can have differential cognitive consequences.

Maass and her colleagues have found that the language used to describe the same behaviors performed by in-group and out-group members will differ according to the valence of the behavior. Positive behaviors tend to yield abstract language use for in-groups, while the same behavior tends to be described with concrete language when an out-group member is the protagonist. This pattern reverses for negative behaviors, such that in-group members evoke concrete language, and out-group members evoke abstract descriptions. Concrete language is time specific - a single incident, abstract language conveys more about the disposition of the protagonist. Maass and her

colleagues contend that this pattern of biased language use is the result of people holding differing expectancies (or stereotype-based expectancies) of in-groups and out-groups. Recent evidence suggests that under competitive conditions, self-protective motivational processes (as laid out in social identity theory) may also play a role under certain conditions (Maass, Ceccarelli & Rudin, 1996). It is this pattern of biased language use in intergroup situations that is the focus of this dissertation, the so-called 'linguistic intergroup bias' (LIB), which encompasses both intergroup processes and stereotyping processes. The present studies are designed to address the impact of self-protective motivational processes, as experienced through competition on the linguistic intergroup bias. Specifically, can self-protective motivational processes in the absence of clearly delineated stereotypes produce biased language use? Also, do self-protective motivational processes work to produce language biases through the modification of existing stereotypes and expectations?

Review of Literature

Linguistic Intergroup Bias

The linguistic intergroup bias (LIB), has been demonstrated to be a fairly stable phenomenon (e.g. Maass, 1992; Maass & Arcuri, 1992; Maass, et al. 1989). This line of research has studied how the communication of behaviors and events differs according to the desirability of the behavior and group membership of the protagonist (e.g. Maass et al., 1989; Maass, 1992; Maass &

Arcuri, 1992). The first series of studies in this line of research was described briefly above, however it would be instructive to lay out the studies in more detail.

Maass et al. (1989) have found that people differentially describe the behavior of others depending on the other's group membership. Maass and her colleagues tested members of horse racing teams from villages in Northern Italy. The teams come together for a yearly competition. Members of the teams were shown a series of drawings depicting socially desirable and socially undesirable behaviors (e.g. throwing away litter, drugging a horse). The protagonists in the drawings were either wearing the colors of the participant's team or the colors of a rival team. The subject's task was to pick one of four sentences that described the behavior of the protagonist in the drawing. The four sentences represented qualitatively different ways of describing the behavior of the protagonist. The sentences formed a continuum of descriptions from discrete actions to personal dispositions of the protagonist. For example, it may be said of the protagonist that they "hit" someone, "hurt" someone, "dislike" someone, or is "aggressive". The terms "hit", "hurt", "dislike", and "aggressive" form a continuum from discrete actions to personal dispositions. They found that if the behavior was undesirable the in-group member's behavior is described more in terms of discrete actions, and the out-group member's behavior was described in more dispositional terms. This pattern is reversed for those behaviors perceived to be desirable (Maass et al., 1989: Experiment 1). So if an in-group member was observed hitting someone, a typical description may be "John hit Jim." However,

an out-group member's behavior would be described as "John is aggressive." In these examples the verb "hit" is a discrete action, or what is called a concrete term where concrete refers to being situationally specific, with a clear beginning and end. The adjective "aggressive" is a dispositional term or what is called an abstract term, where abstract refers to being descriptive of the actor, having no clear beginning or end, and is removed from the situation. This overall pattern of differential behavioral descriptions has been named the linguistic intergroup bias (LIB) by Maass et al. (1989).

The second experiment in the Maass et al. (1989) package used a free choice format for describing the behavior of in-group and out-group members. Judges familiar with the coding of interpersonal verbs on the concrete to abstract continuum, were used to code subject's responses. In this experiment the pattern of differential descriptions held true, but only for out-group behaviors, such that desirable out-group behaviors were described with concrete terms, and undesirable behaviors were described with abstract terms. In-group behaviors were described with abstract terms for both desirable and undesirable behaviors. In fact, a slightly higher mean trend was found for undesirable in-group behaviors. It was concluded that the LIB is perhaps stronger for out-group behaviors than for in-group under these free choice conditions.

In a series of studies, the existence of the LIB was found in the mass media (Maass, 1992). One such study looked at the reports of two Italian newspapers when the Italian National soccer team played. It was believed that by looking at unfavorable comments versus favorable comments made about the

teams, that differential descriptions would emerge. The favorable comments were predicted to employ abstract language, and unfavorable comments were predicted to employ concrete language for the in-group. The reverse pattern was predicted for comments concerning the opposing team. Judges trained in recognizing the levels of the LCM coded several articles on the soccer team's games. The results showed the predicted pattern, but only for the opposing team. The majority of comments were at the concrete level regardless of valence. However, for the opposing team more of the positive comments were coded at the concrete level and negative comments were coded at abstract levels. These findings show that the LIB was stronger for the out-group.

In an experiment using two towns with a history of rivalry, town's people were asked to provide summary statements about either their own town or the rival town. No evidence of the LIB was found when participants were asked to provide summary statements rather than descriptions of specific behaviors (Lazarato, 1989: Experiment 3, cited in Maass & Arcuri, 1992). However, participants from these same towns showed the linguistic bias when they were asked to describe specific behaviors performed by members of their own town versus members of the rival town (Lazarato, 1989: Experiment 4, cited in Maass & Arcuri, 1992). In fact, by simply describing behavior, more abstract terms than concrete terms were used regardless of group membership. The authors conclude that the LIB is limited to descriptions of specific behavioral events and not found in summary free choice statements of a group (Lazarato, 1989, reported in Maass & Arcuri, 1992). The LIB effect has been clearly

demonstrated in several studies, yet there is still some question as to which psychological phenomena can account for the results obtained thus far. The concrete to abstract continuum refers to a system of categorizing interpersonal terms that share several semantic features. This category system is called the linguistic category model (Semin & Fiedler, 1988).

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

The interpretive action verb (IAV), is the next level of the model. These verbs describe a more general class of behaviors, but retain the features of a specific action, where the subject and object are situated in time and place.

IAVs allow for interpretation (as the name suggests) of the behavior beyond the specific interaction, and these interpretations may have an evaluative connotation. For example, "John helps Bob.", where the action itself is performed in a specific time frame, and the consequences and antecedents of the action are open to speculation. IAVs have no physical invariant, as in the previous example, the verb "helps" does not refer to any of the five senses and is not bounded by a specific part of the body. Other examples of IAVs are: cheat, imitate, inhibit, harm, protect, support.

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

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

quality of the person, is more revealing about the person (informative), and is not easy to verify (Fiedler & Semin, 1988; Maass, et al., 1989; Semin & Fiedler, 1988; Semin & Fiedler, 1991).

The existence of the LIB effect is not much in question, however the psychological mechanisms that underlie the effect are still debatable. The purpose of the current studies is to clarify the role of self-protective motivational strategies (based on social identity theory). For the purposes of the present studies the presence of self-protective motivational processes will be invoked through competition. Therefore the general questions addressed in the present research are: can competition produce language biases in the absence of clear expectations? Does competition modify or alter existing stereotypes or expectations? Are modifications or alterations of existing stereotypes linked to the propensity to use biased language? In order to address these questions we should have a clear understanding of what has been found regarding linguistic intergroup bias and its mechanisms. Maass and her colleagues have suggested three competing explanations for the LIB effect - causal attributions, differential expectancies for behavior, and social identity / self protective concerns.

Underlying Mechanisms of the Linguistic Intergroup Bias

Attribution. Maass and her colleagues have taken the stance that the LIB is probably driven by differential expectations. Although, only one study has been published that directly addressed the attributional explanation (Arcuri, Maass, & Portelli, 1993) and some questions have gone unanswered. The attributional explanation for the linguistic intergroup bias centers on the causal



attributions the social perceiver is making about the in-group and the out-group. Situational attributions are made when people believe that the course of action was constrained and directed by the elements of the situation, the actor's internal disposition has very little to do with why the action occurred. If an actor has been told to stand on his head, a social perceiver may say that the cause of the actor's behavior was the situation - the fact that he was told to do so by someone with some degree of power over the actor. Dispositional attributions are made when the cause of the behavior is thought to be due to some enduring quality of the actor. For example, if an actor stands on his head for no apparent reason, no one has directed him to do so, social perceivers may locate the cause of the behavior with the actor. The actor may be standing on his head because he is eccentric, iconoclastic, weird or strange. The cause of the behavior is a direct result of some personality characteristic of the actor. In terms of the linguistic intergroup bias, the use of concrete and abstract language may be a reflection of situational and dispositional attributions.

When people use concrete language to describe negative in-group and positive out-group behaviors, there is a distancing of the actor's personality and the action, similar to situational attributions. If someone describes an action as "Jane hit Sally." the statement itself says very little about enduring qualities that Jane may possess and what precipitated the action. The use of abstract language to describe positive in-group and negative out-group behaviors tends to bind the behavior to the internal disposition of the actor. If we describe Jane's hitting of Sally by saying "Jane is aggressive." then we are saying quite a lot

about Jane's internal enduring characteristics. We can infer that Jane probably hits a lot of people, and that she will probably hit people in the future. This is similar to what Pettigrew termed the 'ultimate attribution error' (Pettigrew, 1979). This error in attributions is the tendency to attribute negative out-group behaviors to dispositional causes and to attribute positive out-group behaviors to situational causes. So, the linguistic intergroup bias may be explained by an attributional analysis, that is to say that people engage in language biases due to these group level attribution biases. Maass and colleagues argue against the attributional explanation using a highly technical approach based on the four levels of the linguistic category model.

The LIB pattern is typically discerned by using the linguistic category model (LCM) developed by Semin & Fiedler (1988). The model has four levels, descriptive action verbs (DAV), interpretive action verbs (IAV), state verbs (SV) and adjectives (ADJ). Semin & Fiedler proposed that the levels form a continuum of increasing abstractness moving from DAV to ADJ (Semin & Fiedler, 1988). The concrete-abstract dimension is defined by several constituent scales, moving from DAV to ADJ there is a linear increase in amount of informativeness conveyed by the description, an increase in how enduring the behavior is thought to be, and an increase in how much disagreement can be generated about the description of the behavior. For example, 1) "Sally hit Jane."; 2) "Sally injures Jane."; 3) "Sally dislikes Jane."; 4) "Sally is aggressive." these four sentences represent the four levels of the LCM, moving from DAV, IAV, SV to ADJ. One can readily see that going from sentence 1 to sentence 4

involves ever increasing potential interpretations about Sally's personality or the informativeness of the sentence regarding the protagonist. The movement from 1 to 4 also involves an increase in how willing we are to interpret how enduring this behavior is in the dispositional make-up of the protagonist. The terms "hit" or "injure" do not lend themselves easily to interpretations of the enduring qualities of the protagonist, while "dislikes" and "aggressive" allow for exactly that type of interpretation. Finally, the abstract nature of a term (SV or ADJ), leads to more potential disagreement than concrete terms (DAV or IAV). "Sally hit Jane." is a factual statement about a specific event in time, we may disagree about how hard Jane was hit, whether or not Jane was hurt by the action etc., but we can agree that Sally physically acted upon Jane in a forceful manner that typifies hitting. "Sally is aggressive." on the other hand, can generate a good deal of disagreement. Social perceivers may have very different experiences with Sally to draw upon in making judgments about her aggressiveness. These examples are to point out some of the differences perceivers experience with the use of different levels of the linguistic category model. Relying on the work of Semin & Fiedler detailing the inferential properties of the LCM taxonomy, Maass and her colleagues (see also Arcuri, Maass, & Portelli, 1993), argue that there is not a linear increase in the amount of personal causality moving from DAV to ADJ. The arguments advanced by Maass and her colleagues hinges on the implicit causality of verbs. In order to fully understand their arguments against the attribution explanation, it is worthwhile to review some of the implicit causality literature.

Implicit causality is the idea that the perceived causal agent in a subject - verb - object (S-V-O) sentence, is determined by the verb (e.g. Au, 1986; Brown & Fish, 1983; Hoffman & Tchir, 1990) (e.g. "Sally hit Jane." the subject, "Sally" is the locus of the causation, derived from the verb "hit".) . In this line of research, it has been found that causality is associated with the thematic roles associated with the verb. A thematic role is a semantic relation specifying the relationship between nouns and verbs (Falk, 1978). The thematic roles looked at in implicit causality research consist of agent, patient, stimulus, and experiencer. Brown & Fish (1983) define the roles as: agent, "someone or something which causes or instigates an action"; patient, "someone or something suffering a change of state"; stimulus, "someone or something that gives rise to a certain experience"; and experiencer, "someone having a given experience" (Brown & Fish, 1983, pp. 241-242). Agent-patient verbs (e.g. cheat, flatter, harm) have the agent as the subject of the sentence and the patient as the grammatical object (e.g. "Sam flatters Donna." - here Sam does the flattering and Donna is the recipient of the flattery.). In the case of agent-patient verbs, causation is typically ascribed to the agent and hence the sentence subject. Verbs classified as stimulus-experiencer (e.g. astonish, charm) have the stimulus as the grammatical subject and the experiencer as the object (e.g. "Jim astonishes Tom." - Jim is the stimulus and Tom is the experiencer.). These grammatical roles are reversed for experiencer-stimulus verbs (e.g. admire, detest), such that the experiencer is the subject and the stimulus is the object (e.g. "Jim admires Tom." Jim is the experiencer and Tom is the stimulus.). Experiencer-stimulus and stimulus-

experiencer verbs both have the locus of causality attributed to the stimulus regardless of its grammatical role (Au, 1986; Brown & Fish, 1983; Van Kleeck, Hillger & Brown, 1988). In the examples above, “Jim” is the subject of both sentences, however in the stimulus-experiencer sentence “Jim” is the cause of “Tom’s” astonishment. In the experiencer-stimulus sentence, “Jim” is once again the grammatical subject, however the causal agent is “Tom”, who causes “Jim’s” admiration. These causal relations hold as long as the sentence is active and the nouns are animate; this is the case for all the materials discussed below.¹ To recap, agent-patient and stimulus-experiencer verbs have causality ascribed to the sentence subject, while experiencer-stimulus verbs have causality attributed to the sentence object. Maass et al. use these semantic relations as the basis for their arguments against an attributional explanation for LIB. In order to investigate an attributional explanation, Arcuri et al. (1993), conducted a study to contrast LIB with group-serving attributions.

Group-serving attributions are part of what has been called the 'ultimate attribution error' or more accurately the intergroup attributional bias (e.g. Hewstone, 1990; Pettigrew, 1979). The general finding is that on specific dimensions of attribution there is a tendency to make attributions that favor the in-group over the out-group in such areas as positive and negative outcomes, success versus failure and group distinctiveness (Hewstone, 1990). Arcuri et al. (1993), conducted a study to specifically contrast the LIB with the group-serving attributions discussed above. In this study participants were presented with 20 episodes of in-group and out-group behaviors that were either positive or

negative in their outcomes. After reading each episode participants were asked to answer a question about what the protagonist did to bring about the outcome. Answers were given in a forced choice format with one IAV explanation, one SV explanation or that both IAV and SV explanations were equally reasonable. For example a scenario described how Paul, who was either an in-group member or an out-group member, went to a basketball game and a fight broke out between him and another spectator. Participants were asked what Paul did to bring about the outcome. Participants could respond by endorsing the sentences "Paul threatened him." (an IAV explanation), or "Paul despised him." (an SV explanation), or participants could have said that both sentences were equally plausible. They found the typical LIB pattern, negative in-group and positive out-group behaviors were explained using more IAVs (sentence subject causation) and positive in-group and negative out-group behaviors were explained using more SVs (sentence object causation) (Arcuri et al., 1993). In terms of the implicit causality literature, IAVs are either agent-patient verbs or stimulus-experiencer verbs, which take the sentence subject as the locus of causality. State verbs (SVs) are experiencer-stimulus verbs which take the sentence object as the locus of causality. A group-serving attributional account would have predicted more IAVs (protagonist causation) for negative out-group behaviors versus negative in-group behaviors (see Hewstone, 1990). For example, according to the attributional explanation, participants should have endorsed sentences like "Paul threatened him." (An IAV sentence) to account for the outcome in the example given above if Paul, the protagonist was an out-

group member. This was not what was found, participants endorsed state verb sentences (e.g. "Paul despised him.") when the protagonist was an out-group member and the outcome was negative. The use of SVs under conditions of negative outcomes for the out-group contradicts a group serving attributional account. Arcuri et al. conclude that while group-serving attributions exist, they are not the driving force behind the LIB.

Arcuri et al. concede that they were only interested in looking at one dimension of attribution namely, locus of causality, the internal (personal) /external (situational) dimension. Other attributional dimensions have been identified, namely stability and controllability of causation (Hewstone, 1990). These other dimensions have yet to be tested in the LIB situation. This casts some doubt on the conclusions drawn by Arcuri et al (see also Maass, Milesi, Zabbini & Stahlberg, 1995). The fact that the two extreme levels of the LCM are not used in the Arcuri et al. (1993) study also poses some problems for interpretation of their data. DAVs and ADJs anchor the external (situational) / internal (personal - dispositional) aspects of the concrete - abstract continuum of the LCM. The exclusion of these levels is a flaw in the design of their study. In most of the studies on the LIB, the LCM responses are collapsed across levels and overall condition means are used as the primary dependent variable in statistical tests (Maass & Arcuri, 1992; Maass et al., 1989; Maass et al., 1995). Participants may be more sensitive to *degrees* of causation than can be picked up by solely using IAVs and SVs. In their test (Arcuri et al. 1993) of the attributional explanation no attempt is made to directly assess the degree of

causation participants attribute to the various levels of the LCM. Until some of these concerns are tested empirically, the attributional explanation of the LCM remains a possible explanation. While not the focus of the current study, it is important to note that other open questions concerning the underlying mechanisms of the LIB exist.

Differential expectancies. The differential expectancies explanation for the linguistic intergroup bias hinges on the idea that social perceivers bring previous experience into their social interactions. Previous experience with members of in-groups and out-groups leads to the development of expectations for future behaviors. These expectations are associated with the mental representations of the group. Therefore, when the group is encountered a host of behavioral expectations are also activated (e.g. Maass et al., 1995). These behavioral expectations are believed to function as stereotypes (e.g. Maass & Arcuri, 1992; Maass & Arcuri, 1996). In terms of LIB, stereotype congruent behaviors are described at abstract levels, while stereotype incongruent behaviors are described at concrete levels.

In a study done by Maass, Giordana & Fontana (1990, cited in Maass & Arcuri, 1992), the LIB was tested with groups of males and females. It was reasoned that both groups would have the same expectations for their own group and the out-group. Participants were given a series of drawings that depicted desirable and undesirable behaviors. Half of the behaviors were typically masculine and half were typically feminine. Participants were asked to describe the behavior in the drawings by either free choice descriptions or

choosing one of four sentences reflecting the LCM. The results revealed that regardless of mode of response, males and females described masculine behaviors performed by male protagonists with more abstract language than masculine behaviors performed by females. This was also true of feminine behaviors, female protagonists prompted the use of abstract descriptions. These results suggest that behaviors that correspond to prior expectations are described with more abstract language.

In another study directly testing the differential expectancies explanation, Maass et al. (experiment 1, 1995) studied Northern and Southern Italians. The authors identified behaviors that were typical of each region that were both positive and negative in valence (e.g. Southern: positive - hospitality, negative - sexism; Northern: positive - industriousness; negative - materialism). Drawings that depicted behaviors corresponding to the typical behaviors were shown to participants. Participants were asked to choose one of four sentences which described the scene (sentences corresponded to the levels of the LCM). The protagonist in each drawing was either a Northern or Southern Italian, so that half of the time the protagonist was performing a behavior that was not typical of his/her region (e.g. Northerner behaving hospitably or a Southern being industrious). They found that correspondence between the group membership of the protagonist and the typicality of the behavior elicited more abstract levels of description, while noncorrespondence elicited more concrete levels of description. In other words, stereotype congruent behaviors were described with abstract terms. Stereotype incongruent behaviors were described with concrete

terms, regardless of the valence of the behavior. The typical LIB pattern was not found, where positive in-group and negative out-group behaviors would be described with abstract language and negative in-group and positive out-group behaviors would be described with concrete language. These findings clearly supported the differential expectancies explanation.

In the third experiment of the same package (Maass et al., 1995), the authors studied a situation in which there were no group level affiliations. They induced expectations experimentally, following the procedures of Rothbart, Evans and Fulero (1979). Participants were given a description of a person whose personality was alleged to be either sociable, or intellectual. The valence of the behavior was manipulated such that protagonists were sometimes described as sociable or intellectual which pre-testing showed to be viewed as positive behaviors. The negative behaviors were non-sociable or non-intellectual behaviors. After reading the description of the person, participants were presented with a single frame cartoon that depicted a behavior that was congruent with the description or incongruent with the description. Participants were asked to choose one of four sentences that described the cartoon, corresponding to the four levels of the LCM. They found that expectancy congruent behaviors were described with abstract language, and incongruent behaviors were described with concrete language, which support the differential expectancies explanation. This study demonstrated that even under conditions where no group level biases could be operating, language differences existed. Taken together, the studies described above suggest that the linguistic

intergroup bias is a pervasive phenomenon that extends beyond intergroup situations.

These studies demonstrate, if not the typical linguistic intergroup bias (e.g. Maass et al., 1989), that at least a differential use of concrete and abstract terms is observed for differential behavioral expectations. It has been maintained that a differential expectancies explanation provides the best account for most of the LIB results (e.g. Maass et al., 1989; Maass & Arcuri, 1992; Maass et al., 1995), however it is conceded that there may be situations where social identity processes may also work to produce differential language descriptions (e.g. Maass, 1992; Maass, et al., 1996).

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

Moghaddam, 1987; Wilder, 1986).

Social identity theory would predict that when confronted with an unfamiliar intergroup situation the easiest evaluation possible is a “we are good - they are not as good” comparison between the groups. The differences in linguistic descriptions would be a function of the valence of the behaviors and membership of the protagonist. The concrete - abstract continuum of the LCM allows one to locate the focal point of the behavior either in the situation or with the protagonist. So, desirable behaviors can be described in a more dispositional way using the abstract end of the continuum if the protagonist is an in-group member, or in a more situation specific way using the concrete end if the protagonist is an out-group member. The pattern then reverses for undesirable behaviors. For undesirable behaviors, concrete terms will be used for the in-group putting distance between the act and the person, while abstract terms will be used for the out-group indicating the behavior is a more enduring quality of the person. In using abstract language, positive traits or behaviors are claimed as enduring qualities of the in-group member and hence reflect positively on the group as a whole. On the other hand, negative traits or behaviors are seen as enduring qualities of the out-group member and also reflect on the group as a whole.

This pattern conforms to the “we are good, they are not as good” perspective indicated by SIT. By describing in-group members’ behavior in concrete terms when the behavior is undesirable, and in abstract terms when the behavior is desirable, the undesirable is divorced from the actor, and the

desirable becomes an enduring quality of the actor. This is then reversed for out-group members, such that undesirable behaviors become an enduring quality of the actor and desirable behaviors are divorced from the actor. If social identity is the underlying process of the LIB, participants are trying to find and make comparisons that will reflect favorably on their own group. By describing desirable in-group behaviors more abstractly people may be trying to claim that behavior as part of the dispositional makeup of their group. In contrast, describing negative in-group behaviors more concretely allows people to distance the act from the group's dispositional makeup.

If mere social categorization is sufficient to trigger in-group favoring intergroup discrimination, and if LIB is merely another manifestation of this process, then LIB should occur in the minimal group paradigm. Note that the expectancy explanation would predict no such effect because participants should hold no clearly delineated expectations about novel, minimal groups.

There is evidence that 'mere categorization' is not sufficient to produce the linguistic intergroup bias. In her 1993 study, Harris tested the LIB under near minimal conditions. Participants were categorized into arbitrary groups and asked to view a series of sixteen drawings of people performing positive and negative behaviors (e.g. hitting someone; helping someone who had fallen). The protagonists in the drawings were designated as a member of one of the two groups. Participants were asked to choose one of four sentences to describe the drawing (corresponding to the four levels of the LCM). Participants were then asked to rate both groups on a series of evaluative traits (e.g. warm,

intelligent). Harris found no evidence for LIB - participants described all drawings in mostly concrete terms regardless of valence or protagonist group membership. While LIB evidence was not found, participants did demonstrate in-group favoritism on the trait rating measure. Participants reliably rated their own group as more likely to possess the positive traits than the out-group. The results suggested that other conditions besides mere social categorization must be met before people will engage in differential language use.

In their 1995 paper (Maass et al.), suggest that social identity concerns might play a role in linguistic intergroup bias, when there are situations of direct competition between groups. This contention was supported empirically by experiments 1 and 2 of Maass et al.'s 1989 paper. The direct competition of the palio teams may have contributed to the pattern of linguistic bias that was moderated by both the valence of the behavioral episodes and the group membership of the protagonist. This version of the SIT explanation of the linguistic bias was also consistent with Maass' study (1992) of environmentalists and hunters. The situation at the time of the study was one of direct conflict, as an Italian national referendum on hunting laws was under debate. They found that both hunters and environmentalists demonstrated the usual linguistic intergroup biases, namely that positive in-group behaviors and negative out-group behaviors were described using more abstract language than was used to describe negative in-group and positive out-group behavior. It is important to note that competition was not directly manipulated in this study.

In a later study of these same groups (hunters and environmentalists),

Maass and her colleagues directly manipulated the level of competition (Maass, Ceccarelli, & Rudin, 1996). The element of competition was introduced by having participants read a statement, reportedly written by a member of the out-group, which was either hostile towards the in-group or positive towards the in-group. They reported that under conditions of high competition, the LIB was more pronounced than was found under conditions of cooperation. It should be noted that linguistic biases were found under the cooperation condition, but these biases were more extreme in the competition condition. Maass and her colleagues also found that in-group favoritism was more extreme in the competition conditions relative to the cooperation condition when reward allocation matrices were used as a dependent variable. The cooperation condition participants also exhibited in-group favoring biases on the reward allocation matrices. Finally, it was found that use of linguistic biases was positively correlated with post-experimental self-esteem measures. This finding supports the idea that use of biases that favor the in-group may have a motivational component that is linked to one's sense of self, in other words, a self-protective motive as Maass and her colleagues have argued elsewhere (e.g. Maass, et al., 1996).

The media studies reported in Maass 1992, also support the contention that competition and/or conflict between groups may play a role in linguistic bias. These media studies explored the occurrence of linguistic bias in newspaper reports of three distinct events in recent Italian history. The studies looked at reports of soccer matches with national soccer team of Italy; an incident

involving Jewish Italians; and the Italian media's reporting of the Gulf War. In all of these studies, direct group conflict or competition appears to have been present in the situations studied and linguistic biases were found in each instance. For example, in the media studies reports of Italian newspapers were surveyed following the games of the Italian national soccer team, and it was found that negative outgroup behaviors were more likely to engender abstract descriptions relative to outgroup positive behaviors. In-group behaviors were described in a relatively unbiased fashion. Thus, social identity processes may not be the only basis for linguistic bias (Harris, 1993), but they may contribute to LIB under certain conditions (e.g. strong intergroup competition, some type of threat to the in-group).

Maass, Ceccarelli and Rudin (1996) have recently studied the direct impact of threat to the in-group on LIB. In their research, they looked at hunters versus environmentalists, as well as Northern versus Southern Italians. They found that increased language bias was associated with threat situations, but not cooperative situations (Experiment 1). In the experiment the out-group was alleged to have made discriminatory remarks about the in-group (threat condition) or the out-group was alleged to have made comments about both groups cooperating to protect the environment. They found evidence of linguistic biases under both conditions, but that use of language biases were more pronounced in the threat condition. They also found that increased language bias in competitive situations does not attenuate the propensity to use abstract language when describing expectancy congruent behaviors. They

conclude from these findings that LIB can be driven by both expectancy and in-group protective motives.

In the first experiment of the studies that look directly at competition as variable, Maass and her colleagues studied hunters and environmentalists under conditions of competition and cooperation. They used the cartoon paradigm in which participants were asked to describe the behavior of the protagonists using one of four sentences that correspond to the LCM. They found language biases, as predicted and that these biases were more exaggerated under conditions of competition versus cooperation. A similar pattern of results was found using reward allocation matrices -- in-group favoritism biases were more pronounced under conditions of competition. These findings of increased bias under conditions of competition are consistent with past research on in-group bias (see Brewer, 1979 for a review). In addition, Maass et al. found that the linguistic intergroup bias was significantly correlated with post-experimental measures of self-esteem, such that as language biases increased, post-experimental self-esteem was higher. There were no reliable patterns between pre-experimental self-esteem measures and the use of linguistic biases. The results of the study support explanations based on social identity theory but only under conditions of competition.

In summary, recent research suggests that social identity / self protective concerns are not sufficient in and of themselves to produce the LIB effect (Harris, 1993; Maass, Milesi, Zabbini, and Stahlberg, 1995), while differential expectancies have been shown to elicit the effect in the absence of other

psychological mechanisms (Maass et al., 1995). The differential expectancies explanation appears to be sufficient to produce the LIB. Social identity concerns may also play a role in the LIB effect under conditions such as competition in which self protective concerns may be more of driving force than under 'near minimal' conditions.

Experiment 1

SIT would predict that competition increases the salience of group membership and the drive to make positive intergroup discriminations. So, even in the absence of clearly delineated prior expectations for the behavior of either the in-group or the out-group as in the minimal group situation, competition should enhance both in-group favoritism and the LIB. That is, as competition increases, positive in-group and negative out-group behaviors should be described using more abstract language (SVs and ADJs), while negative in-group and positive out-group behaviors will be described using more concrete language (DAVs and IAVs). In addition, the in-group favoritism effect will be found in the form of more positive trait ratings of the in-group versus the out-group, especially under competitive conditions.

The differential expectancies perspective might predict that no LIB will be found under conditions where there are no clearly delineated expectations, regardless of level of intergroup competition. In a minimal group setting, the groups in question are formed arbitrarily, having no past history with which to form prior expectations for group member's behavior. The differential expectancies perspective yields no predictions concerning the type of trait

ratings people will make under near minimal group conditions.

Alternatively, intergroup competition could prime a generic set of expectations - e.g. they are subject to threat, we're not (e.g. Rothbart et al., 1979), which could be the basis of an LIB. This type of explanation would predict that in-group biases would present themselves. The underlying mechanism is not a set of clearly defined stereotypes or set of expectations for a particular out-group, but rather a more generic set of expectations - "we are good, they are bad." The generic expectancies explanation relies more heavily on the protagonist's group membership and the valence of the behavior, rather than the typicality of the behavior. This type of explanation will be explored through the willingness of participants to endorse competitive traits for the out-group relative to the in-group. Under competitive conditions participants should rate the out-group as more likely to possess competitive traits than the likelihood that the in-group will possess the same traits.

In summary, the hypotheses of experiment 1:

For the Linguistic Abstraction Measure:

H1: SIT predicts that the competition condition will exhibit more of a propensity to use biased language relative to the no competition condition.

H2: The Generic Expectancies explanation makes no predictions regarding linguistic abstraction, due to the near minimal conditions of the

experiment.

For the Trait Rating Measure:

H3: SIT predicts that the competition condition will exhibit more of a propensity to engage in in-group favoritism (relative to the no competition condition), as measured by trait ratings.

H4: The Generic Expectancies explanation predicts that the competition condition will exhibit more of a willingness to assign negative traits linked to competition to the out-group, relative to the no competition condition.

In addition, the competition condition will exhibit more of a propensity to engage in in-group favoritism, as measured by general trait evaluations.

Methods

The methods used in this experiment are a modification of Harris (1993).

Design. To test the predictions of the SIT and expectancy perspectives, a 2 (competition vs. no competition) X 2 (order of dependent measures: linguistic task first vs. trait evaluations first) X 4 (membership and valence of protagonist's behavior: in-group positive vs in-group negative vs out-group positive vs out-group negative), mixed factorial design was employed, the last factor within subjects.

Participants. One hundred and forty-three participants were recruited from introductory psychology classes. The participants received course credit for their involvement in the study. There were 45 male students and 98 female students. The average of age of participants was 19 years old.

Procedure. Participants were welcomed into a standard classroom in

groups of three to twenty. The participants were seated every other desk, this was done to prevent participants from talking to one another during the experimental session. Once everyone was seated the experimenter handed out consent forms and a 3" x 5" index card and said to the participants:

Welcome to Libby III, a psychology study. In today's study your perceptual orientation will be assessed and you will be asked to complete several tasks designed to test individual differences in perception and cognitive functioning. Please read the consent form that is being handed out now. If you agree to participate in today's experiment, please sign and date the consent form and pass it to the front of the class.

Once the consent forms have been passed to the front, the experimenter went over the instructions for forming an experimental ID code. The experimenter said:

In order to assure your privacy and still track your data from task to task, each person will create a five character ID code. Please choose two letters from the alphabet and three numbers between 000 and 999. Examples of such ID codes would be WM283 or TK917. At this time, please write whatever ID code you have chosen on the index card you were given. Keep this card on your desk and be sure to write the ID code on all answer sheets that you will be given today.

Participants were then given a minimal group categorization procedure to divide them into one of two arbitrary categories (Group X or Group Y). Participants were categorized using a modified version of the visual stimuli task developed by Hymes and Swanson (1993). In this task, people were asked to view a series of eight visual stimuli - reversible figures (i.e. old woman/young woman, duck/rabbit), visual perspective (i.e. two circles surrounded by either smaller or

larger circles) and a picture of a Necker cube. Participants were told that the procedure is called the 'visual acuity test'. The experimenter handed out pencils, a computerized answer sheet (fill in the bubbles) and the booklet containing the visual acuity test. Participants then received the following information:

In this portion of today's experiment we are interested in perceptual orientation.

Perceptual orientation is based upon how you typically view ambiguous visual stimuli.

Please do not open the booklets being handed out until told to do so. Please place your ID code in the boxes for your last name. Do not fill in the bubbles, simply place the code in the first five boxes designated for your last name. This task will test your perceptual orientation. You will see eight pictures and you will have 30 seconds to identify the first thing you see in each picture. Please mark your answers on the computer answer sheet by filling in the letter choice of your answer. Again, mark the answer that represents what you first saw in the picture. You may begin when I say start.

The experimenter then set a timer for 90 seconds and said: Start. Once the 90 seconds were up the experimenter said:

Stop and put your pencils down. Please make sure your ID code is on your answer sheet. Please pass your booklet and answer sheets to the front to be collected. We will now score your results. Please sit quietly while we do this.

The experimenter then appeared to "score" the answer sheets by placing a pre-punched coding sheet over each answer sheet and marking out one or two answers. The group assignments were determined by the principal investigator prior to start of each experimental session. The experimenter then wrote the group designation at the top of the answer sheet. Once all of the answer sheets

were “scored”, the experimenter wrote on the chalkboard the ID codes and group designation. While participants were lead to believe that group membership was based on the results of the visual acuity test, in actuality group membership was randomly assigned. The following explanation was then read to all subjects:

The perceptual orientation task has been shown to reliably categorize people into one of two groups - for now we will refer to them as Group X and Group Y. The group designations are a reflection of how you tend to see ambiguous visual patterns. For experimental purposes, we are unable to tell you at this time what each designation means, however we will do this at the end of the session.

Once the visual acuity test had allegedly been scored, participants in both the competition and no competition conditions were informed of their group designation. Approximately one half of the participants were informed that they belonged to “Group X” and one half was told that they belonged to “Group Y”. The experimenter informed people of their group membership by placing their experimental code and group designation on a chalkboard, as explained above.

All participants received the following information:

The next task you will be asked to do is a test of your short term recognition memory. You will be given three lists with ten syllables in each list. Your task will be to memorize the lists of syllables. Once you have memorized the lists we will give you a test designed to measure how much you remember.

At this point the instructions sets differ for the competition and no competition conditions. The participants assigned to the competition condition received the following instructions:

Past research has shown that there may be certain differences in the cognitive functioning of Group X and Group Y. To expand on the past research, we will test the

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differences in memory between the two groups. In order to get people to take the task seriously, we will reward the group that can remember the lists most accurately.

Members of the group that shows the most accurate memory will be allowed to leave the experiment at least 15 minutes earlier than the other group. Please do the best you can on the memory test.

Participants in the no competition condition received the following instruction set:

Past research has shown that there may be certain differences in the cognitive functioning of Group X and Group Y. To expand on the past research, we will test the differences in memory between the two groups. In order to get people to take the task seriously, we ask that you pay close attention to learning the lists. Please do the best you can on the memory test.

The instruction set in the no competition condition was designed to be neutral in its content while still providing the control group with the same task.

Once the instructions were presented, the experimenter handed out the serial learning memory test. [See the appendix for the serial learning memory test.] Participants were given three minutes to learn the lists. The lists were presented on an overhead projector for three minutes. Participants received the following instructions:

You will be given three minutes to learn all three lists. You will see the lists on the overhead projector. Please do not write anything down or rehearse the syllables out loud. Please direct your attention to the screen.

The experimenter then placed the list overhead on the machine and turned it on. Using a timer, the experimenter gave participants three minutes to learn the lists. At the end of three minutes the experimenter began handing out the memory

test. Participants were timed for two minutes on the memory test. The test was a recognition test, asking participants to recognize the list of the nonsense syllables presented [see appendix for the memory test]. Once everyone completed the memory test, participants received the following information:

You will be starting another task shortly, while you are working on the task we will score the results of the memory test.

In addition, in the competition condition participants were told:

Again, the group that has demonstrated the most accurate memory will be allowed to leave the session at least 15 minutes early and still receive full credit.

The above instruction sets were designed to remind participants in the competition condition of the competitive nature of the situation. The competition condition participants then received the following information:

Today we're trying to look for possible differences between perceptual orientation groups. (For example, we'll see if Group Y and Group X differ in their memory.) We would also like to see if perceptual orientation might not only be related to how people perceive ambiguous physical stimuli (like circles and lines), but how they perceive social situations. So, in a moment you will see drawings showing people engaged in various behaviors. Your task is to describe what is taking place in the drawing to the best of your ability. These drawings were derived from a recent study we conducted in which members of Group Y and Group X were asked to record their daily activities for a week. In order to protect the privacy of these individuals, we had an artist draw pictures of the activities that these people engaged in during the week of our study. The artist didn't put anyone's name on the drawing but did indicate which perceptual orientation group the person happened to be in. We are most interested in the differences between actor and observer descriptions of behavior.

The following information was given to the no competition participants:

Today we're looking for other possible effects for perceptual orientation. We would like to see if perceptual orientation might not only be related to how people perceive ambiguous physical stimuli (like circles and lines), but how they perceive social situations. So, in a moment you will see drawings showing people engaged in various behaviors. Your task is to describe what is taking place in the drawing to the best of your ability. These drawings were derived from a recent study we conducted in which members of Group Y and Group X were asked to record their daily activities for a week. In order to protect the privacy of these individuals, we had an artist draw pictures of the activities that these people engaged in during the week of our study. The artist didn't put anyone's name on the drawing but did indicate which perceptual orientation group the person happened to be in. We are most interested in the differences between actor and observer descriptions of behavior.

Following the presentation of this information, a booklet containing eight single frame cartoons was presented. The cartoons depict four positive and four negative behaviors. The behaviors depicted in the cartoons are someone punching another person; someone ignoring a person on crutches; someone letting a door close on someone who's arms are full; someone pushing another person (these four were negative behaviors); someone comforting a crying child; someone offering a seat to another person; holding a door for someone; talking with someone who's crying (these four were positive behaviors). (See appendix for full set of cartoons). These cartoons were piloted and used in Harris, 1993. Participants had to choose which of four descriptions best described the behavior in the drawing. The four descriptions correspond to the four levels of the linguistic category model and appear underneath the cartoon. The target people in the cartoons were identified as belonging to Group Y (or Group X) by a

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the letter designation on the shirt of the protagonist, the drawings and labels of protagonist were counterbalanced.

Once participants completed the actor / observer (LIB) task, they were asked to fill out a trait rating task. The order of the LIB task and the trait rating task were counterbalanced across experimental sessions. The trait rating task had participants indicate which group was more likely to exhibit the trait and to what degree on a Likert type scale. Participants were asked to indicate their choice on a 7 - point scale. Numbers of five and above were more indicative of group Y than group X, while numbers of 3 and below were indicative of Group X more than group Y. Four was the point that indicated that neither group was more likely to possess the trait in question. The trait task consists of 57 traits, with approximately equal numbers of positive and negative traits, the traits were derived from an inventory designed to assess the stereotype structure of differing age groups (Knox, Gekoski, and Kelly, 1995). The traits have evaluative (e.g. patient, insincere, generous, dejected) and descriptive components (e.g. independent, boastful, other-oriented, suspicious), these components of the trait scale were identified by Knox et al., 1995. In addition the adjective level descriptions from the cartoons (e.g. aggressive, caring, courteous) appeared in the trait task. The list of traits also included synonyms for competition (e.g. combative, aggressive), these traits will serve as a dependent measure of generic stereotypes of competition of the in-group and out-group. Participants' overall impression of the groups may be altered by the advent of competition, such that participants see the out-group as more competitive than the in-group,

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relative to participants in the no-competition condition.

Participants received the following instructions:

Once you complete the actor/observer task (or the trait relations task), please raise your hand and I will collect your materials from you and give you the next task of the day. The next task is a series of questionnaire items we would like you to complete.

A questionnaire with a series of demographic questions was given to the participants, as well as two questions assessing the competition manipulation and a question to assess the level of suspicion on the part of participants as to the true nature of the experiment. Once participants completed the final questionnaire, they were debriefed, thanked for their participation, and excused.

Results

Manipulation check. Participants were asked a single question after all measures were given, whether there was any mention by the experimenter of competition between the groups. In the competition condition 62% of the 91 participants answered this question correctly, 30% answered incorrectly, and 8% indicated that they were unsure of the answer. In the no competition condition, 85% of the 52 participants answered correctly, 6% answered incorrectly, and 9% indicated that they were unsure of the answer. In both conditions the majority of the participants answered in a manner congruent with their condition. It should be noted that all of the analyses were run on those participants who responded to the manipulation check question correctly, there were no significant differences between these participants and all participants. Therefore none of the participants who answered incorrectly were dropped from the analyses.

Linguistic Abstraction. The H1 hypothesis was examined using a 2

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(condition: competition vs. no competition) x 2 (group membership of participant: X vs. Y) x 2 (valence: positive vs. negative) x 2 (group membership of protagonist: in-group vs. out-group) Analysis of Variance (ANOVA) with repeated measures on the last two factors. The H1 hypothesis was designed to test for the effects of competition on the use of linguistic biases as predicted by SIT. The hypothesis was that participants in the competition condition would display more use of the linguistic intergroup bias pattern than participants in the no competition condition. This pattern would have been reflected in a condition by group membership of protagonist by valence interaction. The critical interaction was marginally significant $F(1, 139) = 2.64, p = .107, n.s.$ See Figure 1 for a graph of the means. The hypothesis that the competition condition would display more bias was not supported. People in the competition condition exhibit non-significant mean trends in the opposite direction of the LIB predictions for out-group protagonists, ($M = 1.85, SD = 1.07, n = 91$, negative behaviors; $M = 2.25, SD = .90, n = 91$, positive behaviors). Overall, for the competition participants, the positive out-group behaviors ($M = 2.25, SD = .90, n = 91$) are approximately equal to positive in-group behaviors ($M = 2.22, SD = .93, n = 91$), while negative out-group behaviors ($M = 1.85, SD = 1.07, n = 91$) are equivalent to negative in-group behaviors ($M = 2.00, SD = 1.07, n = 91$). Under competition, there was a general effect of valence, regardless of group membership ($F(1, 89) = 18.70, p < .001$). The no competition participants show a non-significant trend of linguistic bias for the out-group, but only in terms of negative out-group behaviors ($M = 2.33, SD = 1.09, n = 52$) relative to in-group negative behaviors ($M = 1.87, SD, n$

= 52). The two-way interaction of group of protagonist and val was not significant, $E(1,139) = .32$, $p = .574$, n.s., none of the other two-way interactions was significant.

An overall index of LIB was calculated by subtracting in-group negative behaviors from in-group positive behaviors, subtracting out-group positive behaviors from out-group negative behaviors and adding the two difference scores. The LIB index has a range from -6 (maximum out-group "favoring" language, i.e. abstract language for out-group positive or in-group negative behaviors) to 6 (maximum in-group "favoring" language, i.e. abstract language for in-group positive or out-group negative behaviors). There was a marginal difference in condition means, $t(141) = -1.61$, $p = .110$. The competition condition ($M = -.19$) showed a non-significant ($p = .37$) mean trend of linguistic bias favoring the out-group. The no competition condition ($M = .38$) showed a non-significant ($p = .21$) mean trend of in-group favoritism. Again, neither mean is significantly different than zero. Indexes of language use for positive behaviors (LIB-positive) and negative behaviors (LIB-negative) were also calculated. The LIB-positive index was calculated by subtracting out-group positive ratings from in-group positive ratings, positive numbers are indicative of higher abstraction ratings for the in-group, negative numbers are indicative of higher abstraction ratings for the out-group. The LIB-negative index was calculated by subtracting in-group negative ratings from out-group negative ratings, positive numbers are indicative of higher abstraction ratings of the out-group, negative numbers are indicative of higher abstraction ratings of the in-

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group. There wasn't a significant difference between the competition and no competition conditions on the LIB-positive index, $t(141) = .27$, n.s. The analysis of the LIB-negative index revealed a marginally significant difference between the two conditions, $t(141) = -1.94$, $p = .054$. The no competition participants ($M = .46$, not significantly different than zero) rated out-group negative behaviors at a higher level of abstraction than in-group negative behaviors in accordance with typical LIB biases, but opposite to the direction predicted by a SIT explanation if the competition manipulation was successful. The competition participants ($M = .15$) rated in-group negative behaviors at a higher level of abstraction than out-group negative behaviors.

The H2 hypothesis, as predicted by the generic expectancies explanation was one of no differences in terms of linguistic abstraction. While the typical linguistic abstraction pattern was not found overall, as noted previously there was some evidence of non-significant trends for linguistic biases in the no competition condition.

Trait Ratings. The H3 hypothesis tests the idea that participants in the competition condition are more likely to make biased trait ratings in favor of the in-group relative to the no competition participants as predicted by SIT. Given the large number of traits, a factor analysis was performed to reduce the number of dependent measure trait ratings. The factor analysis revealed a thirteen factor solution following a varimax rotation. Upon examination of the thirteen variables it was discovered that six of the variables lacked face validity or contained only one trait. The remaining four variables were used in the

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subsequent analyses, see Table 1. Three of the variables had both negative and positive components, these components were separated in the analyses for ease of presentation, resulting in the use of seven variables. A 2 (condition: competition vs. no competition) by 2 (group membership of participant: X vs. Y) MANOVA with the seven trait variables as dependent measures was performed. The hypothesized pattern would entail a main effect of condition, with the competition condition displaying more bias relative to the no competition condition in the form of more favorable ratings for the in-group and more negative ratings for the out-group. The participant's group membership was not hypothesized to have an effect on the trait ratings. The analysis revealed a marginal multivariate main effect of condition, $E(1,138) = 1.99, p = .061$. The univariate analyses of this marginal main effect revealed significant effects for five of the variables -- negative likability $E(1,138) = 6.86, p < .05$; negative social $E(1,138) = 6.79, p < .05$; aggression $E(1,138) = 5.91, p < .05$; positive likability $E(1,138) = 4.19, p < .05$; and positive social $E(1,138) = 5.37, p < .05$. While there is a effect of condition on some of the trait variables, all variable means are in the opposite direction of SIT's prediction. In each case of significant effects, the no competition participants have higher mean scores than the competition participants (See Table 2 for means). Higher scores on negative traits is indicative of out-group derogation, while higher scores on positive traits is indicative of in-group favoritism. One sample t-tests were conducted to ascertain whether or not the trait variable means were significantly different from the neutral point of the scale. The analysis of the competition condition revealed

only one trait variable mean significantly different from neutral, positive likability, $t(90) = 2.42, p < .02$. The analysis of the no competition condition revealed that all five trait variables were significantly different than the neutral point (See Table 3).

A correlational analysis of the trait factors and the LIB indexes was performed to see if there was an association between bias on one measure and the other. The LIB index and LIB-positive index were not generally correlated with any of the trait factors (See Table 4). There were significant negative correlations were obtained between the LIB-negative index, the aggression trait variable, and the positive likability trait variable. The small number of significant correlations could be an indication of Type I error. Given the number of variables correlated, one would expect approximately four significant correlations by chance alone.

The H4 hypothesis proposes that competition participants will assign more competitive type traits to the out-group relative to no competition participants. This hypothesis corresponds to the analysis of the aggression factor which is comprised of two synonyms of competitiveness -- aggressive and combative. Only the no competition participants revealed significant biased evaluation with this trait factor, opposite to the predicted direction of the generic expectancies explanation and consistent with an ineffectiveness of the competition manipulation.

Memory Task. All participants were given a memory task as part of the experimental materials. This task was used to induce competition in the

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appropriate condition. Participants in the competition condition were lead to believe that their performance on this task would allow their group to leave the session early or not. Absolute performance measure in terms of correct items on the test, revealed a significant difference between conditions $t(141) = 3.21, p < .01$, two-tailed. The competition participants performed better overall ($M = 7.20$) than no competition participants ($M = 6.23$). The overall mean was $M = 6.71$ out of 12, participants were never given any feedback on their performance and memory performance was uncorrelated with any of the dependent measures.

Discussion

The H1 hypothesis proposed that participants in the competition condition would display use of biased language more so than no competition participants, this hypothesis was not supported. In fact, the general direction of competition participant's mean scores was in the opposite direction of predicted results. The no competition participants demonstrated some non-significant biased language patterns but only in terms of out-group evaluations of negative behaviors relative to the evaluations of in-group negative behaviors.

The H3 hypothesis proposed that participants in the competition condition would display more of a propensity to engage in in-group favoritism (relative to the no competition participants), as measured by the trait evaluations of the groups. This hypothesis was not supported. The results revealed that it was the participants in the no competition condition that demonstrated in-group favoritism. No competition participants rated their own group as more likely to possess the positive traits associated with the trait factors of likability and

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sociability. These same participants also rated the out-group as more likely to possess the negative traits associated with the trait factors of likability, sociability, and aggression. The competition participants did not show the predicted pattern of in-group favoritism.

The H4 hypothesis proposed that competition participants would be more likely to view the out-group as more competitive. This hypothesis was assessed with the aggression factor which contained synonyms of competitiveness. Again, the hypothesis was not supported. The competition participants did not demonstrate that they believed the out-group to be more competitive. However, the no competition participants did show this pattern. They rated the out-group as more likely to possess competitive traits associated with the aggression factor.

All of the results are opposite to the predicted patterns in terms of the competition manipulation. Questions designed to check the manipulation of competition showed that participants in the competition condition did understand the experimental instructions designed to foster a competitive mind set. Yet the results show a consistent pattern. This pattern of little to no language biases, and in-group favoritism on trait evaluations under low competition conditions was the same pattern found in Harris, 1993. The author argued that this pattern was consistent with an explanation of linguistic intergroup bias based upon stereotype based expectancies. Under this explanation behaviors that are congruent with our expectancies of the group are described at higher levels of abstraction than behaviors that are incongruent (Maass et al., 1995). So, under

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near minimal conditions (as we have in this study and in Harris, 1993) in which participants have little to no opportunity to form expectations for group behavior, language biases are unlikely to occur.

However, the pattern of results suggest strongly that something systematic is occurring as a result of the competition manipulation. A potential explanation for the findings is that participants in the competition condition felt not competition but rather a sense of failure due to the difficult nature of the memory task. Again, these participants scored on average just above half correct on the memory task, yet given the fact that they received no feedback, participants may have felt that they actually did much worse. The competition participants had a tangible reward at stake -- the opportunity to leave the experimental session before the end of the time allotted. The combination of the memory task (see Appendix A) and a reward to be shared by the whole group may have invoked a sense of failure. Participants in the competition condition may have interpreted their performance as "letting the group down." This possible sense of failure would be in light of the fact that these participants actually performed better than the no competition participants. In absolute terms, competition participants averaged 7.2 out of 12, while no competition participants averaged 6.23 out of 12 on the memory task. It should be pointed out once again that the participants were not given any feedback regarding their performance and that the memory task was administered before the dependent measures. Ryen and Kahn (1975) found that group failure feedback resulted in the elimination of the usual evaluative differences of the in-group versus the out-

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group. The participants in the no competition condition may not have had such a failure experience based upon performance because they had nothing at stake, and showed patterns of bias that replicate Harris, 1993.

The potential sense of failure on the part of competition participants would be consistent with the interpretation that the competition manipulation failed to induce the intended psychological mindset, and thus it was not appropriate to test the hypotheses of experiment one. One potential way to avoid this problem in the future would be to tell participants that a competitive task would take place at some point in the experiment, thereby inducing an anticipated competition without an actual task taking place. Also, one could indicate to participants that the scores on the memory task are always very low after the task has been administered.

The results in the no competition condition are similar to Harris (1993), yet there are several potentially important distinctions. Harris used only eight positive traits to assess group evaluations. The present study consisted of both positive and negative traits, as well as traits that are synonymous with competition. The people in the no competition condition not only rated their group as more likely to possess positive traits relative to the out-group, but also rated the out-group as more likely to possess competitive-like traits, and negative traits in general. The pattern of results might be explained by a type of self-serving bias (e.g. Cadinu, Arcuri, & Kodilja, 1993; Kunda, 1987; Urban & Witt, 1990) . Participants attribute positive things to the groups to which they belong, since they are a member of the group.

Experiment 2

Experiment 2 is designed to further explore whether or not competition per se or its invoking of in-group protective motivations will modify or alter pre-existing expectancies (i.e. whether it is such altered expectancies which are the proximal mediator of language biases). Maass et al. (1996) set out to test whether or not the linguistic intergroup bias was produced by self protective motivations as predicted by a social identity perspective, under conditions of competition and social status differentials. In the first experiment of their paper, they tested natural groups (environmentalists and hunters) in which the two groups were lead to believe that there was a heightened atmosphere of competition between the two groups or that there was a sense of cooperation. Maass et al. measured linguistic biases using the cartoon paradigm, they also measured in-group biases using a reward allocation task, and measured pre- and post-experimental self esteem. They found that under conditions of heightened competition (which they termed an in-group threat condition) the usual pattern of linguistic biases were exhibited by the participants. Both hunters and environmentalists in the competition condition were found to describe the positive behavior of the in-group and the negative behavior of the out-group in relatively more abstract terms (i.e. greater use of state verbs and adjectives). The negative behavior of the in-group and positive behavior of the out-group was described in relatively more concrete terms (i.e. greater use direct action verbs and interpretive action verbs). The competition condition revealed a

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significantly stronger pattern of LIB than did the no competition condition.

It was also found that under conditions of competition, participants were more likely to use reward allocation strategies that favored the in-group. Under conditions in which a sense of cooperation was fostered, participants were more likely to adopt a more biased reward-allocation strategy. Finally, the use of linguistic bias was found to be significantly correlated with post-experimental self-esteem measures, but not pre-experimental measures. The relationship between the use of linguistic biases and post-experimental self-esteem scales held even when use of in-group-favoring reward strategies was partialled out. Under the SIT explanation, linguistic biases perform the same psychological functions of self protection that in-group favoring trait evaluations, biased reward allocation, and other in-group favoring biases provide. These findings support the idea that under certain conditions, social identity concerns may form the basis for the use of linguistic biases. Whether or not social identity concerns can produce linguistic biases in the absence of pre-existing group level expectations was the goal of the first experiment of this study. However, the question remains as to how social identity concerns and pre-existing expectations work in concert to produce the linguistic intergroup bias.

In the second experiment of their 1996 paper, Maass and her colleagues sought to replicate the findings of the experiment described above and to assess the relative contributions of pre-existing expectations and social identity concerns in the use of linguistic biases. In this study, Northern and Southern Italians were the focal groups. The participant population was employed

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because of their shared stereotypical knowledge of both desirable and undesirable traits for both groups. This feature is important because it allowed Maass and her colleagues to construct experimental materials that would make typical behaviors and valence of behavior orthogonal to one another. Thus, they avoid the confound of all or most in-group behaviors being seen as positive and all or most out-group behaviors being seen as negative.

Maass and her colleagues also changed the threat to group identity manipulation in the second experiment (Maass, et al., 1996). Instead of employing an overall hostile or friendly message attributed to the out-group, all participants were exposed to the allegedly prejudicial views of the out-group about the in-group. For example, Northern Italian participants were told that Southern Italians in a previous study had made several indirect discriminatory statements about Northern Italians. The participants were told that this was done in the context of collecting the opinions of both groups about the differences in the values and behaviors that may exist between Northern and Southern Italians. Maass, et al. also included a condition in which participants were told the contrast of groups was between Italians and the Swiss. This condition created a superordinate category which according to research in social identity should reduce intergroup discrimination (e.g. Hewstone, Islam & Judd, 1993).

The remainder of the methods was the same or similar to the first experiment (i.e. the cartoon paradigm with linguistic category model sentences was used to assess language abstraction). Maass, et al. replicated the typical

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LIB finding in the Northern, Southern comparison condition. However, the Swiss, Italian comparison condition showed no evidence of LIB, in fact participants chose more abstract descriptions for negative behavior for both groups, as opposed to positive behaviors. It was also predicted that Southern Italians would demonstrate a greater amount of bias due to their lower status in the society, which indeed was the case. This finding conforms to past research on in-group bias, which finds that for real groups (as opposed to minimal groups) lower status is correlated to higher degrees of bias favoring the in-group (see Mullen, Brown & Smith, 1992 for a meta-analytical review of this literature).

Maass and her colleagues reported that there was a general tendency in the Northern, Southern comparison threat condition to describe typical behaviors in a more abstract fashion than atypical behaviors for both groups. However, they also found that Southern Italians demonstrated this tendency to a greater degree than Northern Italians. Maass et al. argue that this finding is an indication that self-protective motivation and stereotypical expectancies have a joint relationship in producing linguistic intergroup bias. They argue that if the two processes were mutually exclusive that Southern Italians would have been *least* likely to rely upon typicality information, given their lower social status. This argument assumes that stereotypical expectancies would be subsumed or overridden by self-protective motivations in producing language biases. Southern Italians have a lower social status, which according to social identity theory makes them more prone to in-group favoring, out-group derogating behaviors (e.g. Mullen et al., 1992) as would be found with linguistic biases.

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Therefore if only one process was operating (namely self-protective motivation), then Southern Italians should demonstrate a high degree of linguistic bias, with little or no reliance on stereotypical expectancies.

The typicality judgments were used in Maass et al.'s second experiment as an indirect measure of stereotypic expectancies. The expectancies were not measured directly in the course of the experiment, rather materials for the cartoon paradigm was developed from pilot tests. The actual behaviors depicted in the cartoons had to be viewed as typical of one group but not the other, with a mean difference of 2.5 on a 7-point scale. Social identity theory or in-group protective motivation does not explain why lower status combined with threat to identity should produce stronger stereotypic expectancies. It may be the case that competition fosters a strengthening of one's usual expectancies, or that superordinate group identities (e.g. the Swiss - Italian condition – Maass, 1996) weaken one's usual expectancies. It may be the case that self-protective motivation modifies or moderates the use of stereotypic expectancies in terms of linguistic intergroup bias. In other words, self-protective motivations strengthened by intergroup competition may create a situation in which a person is **more** likely to rely on pre-existing expectancies. For example, a person sees a member of a hostile out-group behaving in a stereotype consistent manner, this person is more likely to describe this behavior in dispositional terms, than someone who perceives the target as a relatively benign out-group member. This possibility is the focus of experiment 2 of this dissertation.

While the proposed experiment relies heavily on the methodology of the

first experiment of this package and the methods employed by Maass and her colleagues, there are some differences. The groups that will form the basis of comparison are younger and older adults. The use of real social groups (as opposed to ad-hoc groups created in the laboratory) allows for use of more distinctive and stronger stereotypic expectancies than can be created in a laboratory setting. It should be noted that expectancies were assessed in the materials. Also, to induce self-protective motivations a competition manipulation was employed. Social identity research has shown that competition between groups enhances the likelihood that in-group biases will be demonstrated. Competition is another form of threat to group identity (e.g. Brewer, 1979).

The following hypotheses are proposed for this experiment.

Social Identity Theory

H1: Social identity theory would predict that under conditions of competition, participants will demonstrate more language biases than in conditions of no competition. This hypothesis should be revealed in the greater use of abstract descriptions for positive in-group behaviors and negative out-group behaviors, and in greater use of concrete descriptions for negative in-group and positive out-group behaviors.

H2: The social identity theory would also predict that participants will rate their own group more favorably than the out-group, in terms of trait evaluations. Participants will endorse positive traits more often when rating their in-group, as opposed to the out-group, and negative traits when rating the out-group.

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Differential Expectancies

H3: The differential expectancies perspective would predict that under either condition, the overall pattern of language use should be in line with pre-existing stereotypic attitudes, regardless of valence of behavior or group membership of the protagonist. In other words, typical behaviors should be described in a more abstract fashion than atypical behaviors. If it is the case that the competition condition produces stronger LIB, this may be mediated by stronger expectancies.

Social Identity and Differential Expectancies

H4: An interplay of social identity concerns and differential expectancies would predict that the expectancies of the out-group would be modified by social identity concerns. In other words, the existing stereotypes for the out-group would be altered under conditions of competition. This hypothesis should be reflected in the willingness of participants in the competition condition to endorse traits that do not necessarily conform to the typical contents of the stereotype for the elderly, but are synonymous with a competitive style. This hypothesis could also be manifested by participants' typicality judgments on adjective level descriptions from the cartoons that appear on the trait rating task. If self-protective motives, as found in much of the social identity literature, is a moderating variable of stereotypic expectancies, then under competitive conditions, we should see a stronger pattern of stereotypic attitudes on the trait ratings.

H5: It may be the case that when social identity concerns and differential

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expectancies are at work that all typical expectancies become stronger. In this case there should be stronger endorsement of traits that are in line with the stereotypic expectancies of both groups.

H6: The interplay of social identity concerns and differential expectancies may also produce stronger expectancies for positive behaviors. In this case there should emerge a pattern of trait ratings in which more positive stereotypic traits are endorsed for both groups than are negative traits.

Method

Design. The overall design of the study is a 2 (condition: competition vs. no competition) X 2 (order of bias measures: linguistic bias first, vs. trait rating first) X 2 (type of behavior: typical vs. atypical) X 2 (age of protagonist: young vs. old) X 2 (valence of behavior: positive vs. negative), mixed factorial with the last two factors within subjects.

Participants. Two hundred and sixty - four participants were recruited from introductory psychology classes. The participants received course credit for their involvement in the study. Due to the nature of the study, looking at young adults' stereotypes of the elderly, participants over the age of 30 were dropped from the analyses. The final participant pool resulted in 256 people, the average age was 20, with 73 male participants and 183 female participants.

Procedure. Participants reported to a standard college classroom in groups of four to thirty people. Participants were told that we were conducting experiments to ascertain the judgments of people concerning age and ageing on several dimensions. Participants were seated in the classroom in such a way

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that no two people were directly next to one another. Participants were given a booklet containing the experimental materials and told to complete the booklet at their own pace. Participants typically took about 25 minutes to complete the materials. Each booklet contained the "Senior Financial Aid Memo" (see below), "Senior Financial Aid Questionnaire" (see Appendix B), the "Actor / Observer Task" – with the drawings to measure linguistic biases, the "Trait Relations Task" – measure of trait ratings of young and elderly people, and a final questionnaire with demographic questions, a measure of current mood, manipulation check question, and a question to probe suspiciousness of experimental purpose. The "Actor / Observer Task" and "Trait Relations Task" were counterbalanced for order across booklets.

In the competition condition, participants were given the following memo purportedly from a financial aid officer and asked to answer several questions about their attitudes regarding the content of the memo.

Text of Memo:

We have recently begun exploring ways to make our institution more responsive to the needs of non-traditional students. We have heard numerous complaints about our lack of services for retired citizens who wish to attend classes to broaden their experiences. We feel that bringing this type of student into the classroom is an excellent way to also broaden the experiences of our more traditional student body. Michigan State University has already begun to offer more evening courses to the curriculum to accommodate the non-traditional student, but we need to do more in addressing their needs. To this end we are proposing several financial aid packages aimed at recruiting older students (middle aged and senior citizens) to participate in our educational programs. The aid packages would be in the form of grants and fellowships based largely on age and desire to attend classes.

While we feel this is an excellent way to entice older adults to the classroom, we would have to move money from some existing aid programs that currently go to the younger traditional student. Many traditional students could have their aid packages reduced or eliminated altogether. However, we believe the gains we envision outweigh the hardships some traditional students may face. We therefore recommend moving forward with the implementation of the Senior Adult Financial Aid Program.

Participants in the no competition condition received the same essay, with explicit statements that assure them no aid will be cut for traditional students.

Text of Memo:

We have recently begun exploring ways to make our institution more responsive to the needs of non-traditional students. We have heard numerous complaints about our lack of services for retired citizens who wish to attend classes to broaden their experiences. We feel that bringing this type of student into the classroom is an excellent way to also broaden the experiences of our more traditional student body. Michigan State University has already begun to offer more evening courses to the curriculum to accommodate the non-traditional student, but we need to do more in addressing their needs. To this end we are proposing several financial aid packages aimed at recruiting older students (middle aged and senior citizens) to participate in our educational programs. The aid packages would be in the form of grants and fellowships based largely on age and desire to attend classes. We feel this is an excellent way to entice older adults to the classroom, and we are confident that the availability of financial aid for our younger, traditional students will not be affected by this new program. We therefore recommend moving forward with the implementation of the Senior Adult Financial Aid Program.

Participants were asked to write down whether they agreed or disagreed with the implementation of the program. They were also asked to respond to 5 point Likert type scales on how positive or negatively they view this program, and how strongly they hold their opinion regarding the financial aid program for seniors.

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These measures were designed to find how strongly people feel about the competition manipulation.

All participants then received the linguistic bias measure, and the trait rating measure, the order of presentation was counterbalanced. The linguistic bias measure consisted of ten drawings depicting positive and negative stereotypic behaviors for younger and older adults (see Appendix B). For example, a drawing of someone yelling at someone is more stereotypic for older adults, while someone lifting another person off the ground, would be more stereotypic for younger adults. The behaviors depicted in the drawings were derived from several studies on the content of stereotypes of the elderly (Braithwaite, 1986; Brewer, Dull & Lui, 1981; Hummert, 1993; Rothbaum, 1983). The drawings depicting typical elderly adult behaviors were: Positive - holding the door for someone carrying groceries; chatting at a cocktail party; comforting someone who is crying; Negative - ignoring someone waiting who is on crutches; yelling at someone. The drawings that depicted typical young adult behaviors were: Positive - kissing someone passionately; lifting someone off the ground who had fallen; hugging someone; Negative - pushing someone in anger; punching someone. The group membership of the protagonist was designated below each drawing. The general stereotypes of younger adults contain a very healthy, strong physical component, while the stereotypes of older adults tend to portray them as frail, nonsexual, inconsiderate or considerate (depending on the expectations of the participant), and set in their ways.

Below each of the drawings there were four sentences that correspond to

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the four levels of the LCM. The sentences reveal increasing levels of abstract language use to describe the behavior of the person in the drawing. In addition to the LCM sentences, participants were asked to indicate the valence of the depicted behavior, and whether it was more typical of an elderly or young person. Participants were told that the drawings were derived from the diaries of younger and older adults from a separate study. The drawings allegedly were derived from random selections from the diaries and are stylized to protect the identity of the previous participants. Participants were told that in this phase of the experiment we are interested in how outside observers will describe the scenes and they will be compared to how the individual in the drawing described the scene. Once participants complete this measure they will move on to the other measures, depending on the order of presentation (the trait ratings and demographics questionnaire).

The trait rating measure was similar to the trait rating scale used in Experiment 1. The trait rating measure was derived from the AGED Inventory (Knox, Gekoski & Kelly, 1995), this measure was specifically designed to assess how different age groups are perceived, and provides two general dimensions (evaluative and descriptive) on which attitudes can be assessed. It should also be noted that within each of the broader dimensions are two more specific dimensions related to age specific stereotypes - evaluative: goodness and positivity; descriptive: vitality and maturity. The multiple dimensions of the scale allow for researchers to assess a more complex attitude structure of age specific stereotypes.

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The trait measure used in this study included 57 trait words (see Appendix B). Participants were asked to indicate on a 7 point scale which group typically exhibited the trait. The adjective level descriptors used in the linguistic bias measure were also included in the trait measure.

Once participants filled out the dependent measures, they were asked to fill out ratings of their current mood. In addition, participants were probed for knowledge of competition for financial aid. This was a check on the competition manipulation. Participants also filled out a demographics questionnaire and a measure designed to probe for suspiciousness of experimental purpose. Participants were then debriefed and excused.

Results

Data from participants older than 30 years ($n = 8$) were dropped from the analyses due to the nature of the competition manipulation. No other participants or data was excluded from the analyses.

Manipulation checks. The primary manipulation check on the inducement of competition was a factual question at the end of all measures that asked participants to indicate whether or not there was mention of potential loss of financial aid for traditional students. Of the 122 participants in the competition condition, 61.5% answered correctly that there was mention of potential loss of aid, 25.4% answered no to the question, and 13.1% answered that they did not know whether it was mentioned or not. In the no competition condition, 66.9% answered correctly that there was no mention of loss of aid, 16.5% answered that there was mention of loss of aid, and 16.5% answered that they did not

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know whether the materials mentioned potential loss or not. It should be noted that all of the analyses were run on those participants who responded to the manipulation check question correctly, there were no significant differences between these participants and all participants. Therefore none of the participants who answered incorrectly were dropped from the analyses.

The participant's perception of the typicality of the behaviors in the drawings was also assessed. The typicality of the drawings was derived from the author's apriori reading of literature on stereotypes of the elderly and young adults. The following drawings were chosen to depict behaviors consistent with elderly stereotypes, following each drawing is the percentage of participants who perceived the behavior to be more typical of the elderly: Ignoring someone on crutches (being self absorbed), 36%; Holding someone who is crying, 88%; Yelling at someone, 41%; Holding the door for someone carrying groceries, 69%; chatting with someone at a social gathering, 45%. The following drawings were depicted as more typical of young adults: Pushing someone in anger, 97%; Hugging someone affectionately, 58%; Punching someone, 98%; Helping someone that had fallen off the ground, 62%; kissing someone passionately, 94%.

The valence of each drawing was assessed during the experimental session. Participants rated each drawing on a 5-point scale from (1) very positive to (5) very negative. In each case the a priori negative drawings were rated by participants as negative: Drawing 1 - $\underline{M}$ = 3.77; Drawing 2 - $\underline{M}$ = 4.18; Drawing 5 - $\underline{M}$ = 4.24; Drawing 6 - $\underline{M}$ = 4.72. All means were significantly

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different from the neutral point of (3). All a priori positive drawings were rated as positive by the participants: Drawing 3 - $M = 1.45$; Drawing 4 - $M = 1.52$; Drawing 7 - $M = 1.59$; Drawing 8 - $M = 1.68$; Drawing 9 - $M = 2.18$; Drawing 10 - $M = 1.62$. Again, all means were significantly different from the neutral point of (3). Drawing numbers refer to the order in which the drawings appeared in the experimental materials (see Appendix B).

Linguistic Abstraction. To test the linguistic abstraction hypotheses (H1 and H3) a 2 (condition: competition vs. no competition) by 2 (order of dependent measures: linguistic abstraction first vs. trait evaluation first) by 2 (typicality of protagonist behavior: typical vs. atypical) by 2 (protagonist age: elderly vs. young) by 2 (valence of behavior: positive vs. negative) mixed factorial with the last two factors within subjects was analyzed with ANOVA. The order factor was found to have no impact on the results and was dropped from further analyses. According SIT, linguistic abstraction should be revealed in a condition by protagonist age by valence interaction. This interaction was not significant, $F(1,252) = .10$, $p = .753$, n.s. According to the stereotypic expectancies explanation, linguistic abstraction should be revealed in a main effect for typicality, with typical behaviors described at more abstract levels than atypical behaviors. This main effect was not found $F(1,252) = 1.11$, $p = .293$, n.s. A correlational analysis of level of abstraction and typicality (either experimentally manipulated or participant rated typicality) for each drawing revealed no significant correlations.

However, a typicality by protagonist age by valence interaction was found

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to be significant $E(1,252) = 14.19, p < .001$. Looking closer at this interaction it was revealed that when the behavior was more typical, the linguistic intergroup bias was found in a protagonist age by valence interaction $E(1, 125) = 14.81, p < .001$. See Table 5 for means. Examination of the means reveals that positive behaviors by either group were not differentiated but negative behaviors by elderly protagonists were described in a more abstract fashion than negative behaviors of young protagonists. When the behavior was atypical, the protagonist age by valence interaction was not significant, $E(1,127) = 2.76, p = .099$, n.s., see Table 6 for the means. Examination of the means reveals that again, positive behaviors for both groups are largely undifferentiated.

Experimentally Manipulated Typicality

To clarify the potential effects of the competition manipulation on linguistic biases separate analyses were performed based on the competition manipulation of the drawings in the linguistic abstraction measure. A 2 (typicality: typical vs. atypical) $\times$ 2 (target: young adult vs. elderly adult) $\times$ 2 (valence of behavior: positive vs. negative) mixed factorial with the last two factors within subjects analysis of variance was performed with level of abstraction as the dependent measure when competition was high. This analysis revealed a three-way interaction, $E(1,121) = 11.09, p = .001$. This interaction is indicative of the usual LIB effect, moderated by typicality. Upon examination of the means, it was found that the interaction was driven largely by participant's responses to young ($M = 1.45, SD = .65, n = 67$) and old ($M = 1.97, SD = .73, n = 67$) targets performing typical behaviors that were negative (see Figure 2). A t-

test was performed and revealed this difference to be significant $t(66) = 5.81$, $p < .001$. Competition participants viewing typical negative behaviors were more likely to use more abstract language to describe the behavior of elderly targets relative to young targets. This pattern reverses for atypical negative behaviors, young targets ($M = 1.84$, $SD = .68$, $n = 56$) were described more abstractly than elderly targets ($M = 1.53$, $SD = .87$, $n = 56$), $t(55) = 2.69$, $p < .01$. There were no differences in how participants described the behavior of positive behaviors, although positive behaviors were described more abstractly than negative behaviors in general. Correlational analyses of experimentally manipulated typicality and level of abstraction under high competition revealed no significant correlations for any of the individual drawings.

The same analyses as above were performed for the no competition condition. Again, the results revealed a three-way interaction, $F(1,131) = 3.96$, $p < .05$, indicative of the usual LIB effect. Examination of the means revealed that the interaction was driven largely by responses to young ($M = 1.40$, $SD = .74$, $n = 60$) and old ($M = 1.60$, $SD = .69$, $n = 60$) typical negative behaviors (see Figure 3). A t-test was performed and revealed a significant difference, $t(59) = 2.23$, $p < .03$. Similar to the competition participants, no competition participants also described elderly typical negative behaviors more abstractly than young typical negative behaviors. There were no differences for the atypical behaviors of either target group. For the no competition condition atypical behaviors in general were described more abstractly than typical behaviors this was demonstrated in a main effect for typicality (moderated by the three-way

interaction), $F(1,131) = 8.01$, $p < .01$, typical $M = 3.47$, $SD = .63$, $n = 132$ and atypical $M = 3.93$, $SD = .72$, $n = 132$. Again, there were no differences among the positive behaviors, although positive behaviors were described more abstractly than negative behaviors regardless of target group or typicality.

Correlational analyses of experimentally manipulated typicality and level of abstraction under low competition, revealed significant correlations for two of the ten drawings. Drawing 1 (person ignoring someone on crutches) showed a positive correlation, $r(133) = .25$, $p < .005$, indicating that behaviors experimentally manipulated to be atypical were associated with higher levels of abstraction. Drawing 2 (someone pushing another person) showed a positive correlation, $r(133) = .22$, $p < .02$, again the direction of the correlation indicates that atypical behaviors are associated with higher levels of abstraction. (See Appendix for all drawings, ordinal position determines drawing number.) None of the correlations for the remaining eight drawings were significant.

To investigate the impact of the typicality manipulation, separate analyses were conducted on typical and atypical behaviors. A 2 (competition condition: competition vs. No competition) $\times$ 2 (target: young adult vs. elderly adult) $\times$ 2 (valence of behavior: positive vs. negative) mixed factorial with the last two factors within subjects analysis of variance was performed with level of abstraction as the dependent measure of typical behaviors. The analysis revealed a target by valence interaction that was not moderated by the competition manipulation, $F(1,125) = 14.81$, $p < .001$ (See Table 7, for the ANOVA table). This interaction was mentioned previously. This interaction is

indicative of the LIB effect that has been found in previous studies. Examination of the means revealed that the interaction is driven largely by negative behaviors - elderly negative ($M = 1.80$, $SD = .74$), young negative ($M = 1.43$, $SD = .69$). The positive behaviors were the same for both target groups ($M = 2.07$, $SD = .58$ Young, $M = 2.07$, $SD = .68$ Elderly). The out-group targets exhibiting typical negative behaviors were described using more abstract language than the in-group targets exhibiting negative behaviors. Examination of the means for the condition main effect revealed that the competition participants coded behaviors more abstractly than no competition participants, $M=1.93$, $SD=.48$ (competition), $M=1.73$, $SD=.47$ (no competition). In other words, the competition participants rated typical target behaviors more abstractly than no competition participants. The target main effect revealed that elderly behaviors were coded more abstractly than young adult behaviors $M = 1.93$, $SD=.59$ (elderly), $M = 1.75$, $SD = .53$ (young). The valence main effect revealed that positive behaviors were coded more abstractly than negative behaviors, $M = 2.07$, $SD = .54$ (positive), $M = 1.61$, $SD = .56$ (negative).

Examination of the atypical drawings revealed main effects for target and valence, $F(1,127) = 4.97$, $p = .028$ (target), $F(1,127) = 31.60$, $p < .001$ (valence). There were also marginal effects for a condition main effect $F(1,127) = 2.56$, $p = .112$, and a target by valence interaction, $F(1,127) = 2.76$, $p = .099$. Examination of the means for the target main effect revealed that young targets' behaviors were coded as more abstract than elderly adults' behavior, $M = 1.96$, $SD = .53$ and $M=1.85$, $SD = .56$, respectively. The valence main effect revealed

that positive behaviors were coded more abstractly than negative behaviors, $M = 2.06$, $SD = .51$ and $M = 1.75$, $SD = .62$.

In order to explore the predictions based on an expectancies explanation, a separate LIB index measure was created that was the mean abstraction level across all drawings, regardless of target or valence. A t-test to compare typicality conditions on this measure revealed no differences in level of abstraction, $t(254) = -1.10$, $p = .27$, n.s., $M = 1.84$, $SD = .48$, $n = 127$ (typical drawings); $M = 1.90$, $SD = .48$, $n = 129$ (atypical drawings). When there was competition, no typicality differences in mean level of abstraction were found $t(121) = 1.19$, $p = .236$, n.s., $M = 1.93$, $SD = .48$, $n = 67$ (typical drawings); $M = 1.82$, $SD = .50$, $n = 56$ (atypical drawings). In the case of no competition a significant difference was obtained, $t(131) = -2.83$, $p = .005$, $M = 1.73$, $SD = .47$, $n = 60$ (typical drawings); $M = 1.97$, $SD = .46$, $n = 73$ (atypical drawings). Looking at the means we can see that under conditions of no competition, atypical drawings have a higher mean level of abstraction than typical ones.

Participant's Rated Typicality

The preceding analyses were all based the experimental manipulation of typicality. However, participant's typicality ratings were also assessed during the experimental session. Since the typicality ratings were not the same for each drawing, ten separate analyses were conducted using a 2 (condition) by 2 (typicality rating of participant) factorial. The dependent measure was level of linguistic abstraction for each drawing. In the vast majority of the analyses, Participant typicality ratings had no impact on the dependent measure (See

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Table 8 for a summary of the main analyses). Only for one drawing was the analysis significant and given the large number of analyses run, this could be a Type I error. The analyses based upon participant's typicality ratings revealed no significant differences for the index measure. Further, correlational analysis revealed no significant correlations between participant's ratings of typicality and level of abstraction.

Trait Measure. A factor analysis was attempted to reduce the number of traits to be analyzed. The factor analysis revealed an 18 factor structure, with a varimax rotation. The factors lacked face validity and were not used in any subsequent analyses.

Analysis of the means of all 57 traits revealed that 26 traits were rated as more typical of young adults, while 20 traits were rated as more typical of elderly adults. These traits are all significantly different from the neutral point on the scale. The traits were then combined into four composite variables - young adult positive traits; young adult negative traits; elderly adult positive traits; and elderly adult negative traits. (See Table 9 for traits and means). Separate ANOVAs were conducted on each of the composite trait variables using a one-way ANOVA with condition as the independent variable. There were no main effects for the condition variable.

The composite traits were also subjected to analysis with a 2 (competition Condition) by 2 (experimental typicality of linguistic drawings) factorial design to see if the typicality of the drawings had an effect on trait ratings (see Table 10). Only the elderly adult negative composite revealed a significant interaction

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$E(1,254) = 5.77, p = .017$. Both of the young adult composite variables were marginal - young adult positive, $E(1,254) = 3.70, p = .056$; young adult negative, $E(1,254) = 3.16, p = .077$. There were no main effects for any of the composite variables. There were no significant effects for the elderly adult positive composite variable. The general pattern of means for the significant and marginal interactions was that after having seen more typical drawings, competition lead to trait ratings that were more typical of the target group than the ratings of the no competition participants. Tests of the simple effects revealed that under typical conditions competition participants rated the negative elderly traits more like the elderly than the no competition participants, $E(1,126) = 5.52, p = .02$. None of the other simple effects were significant. The opposite competition simple effects characterized those who had seen atypical drawings, however none of the simple effects were significant.

The traits that comprised a measure of competitiveness (aggressive, combative) were analyzed to see if they became part of the elderly stereotype under conditions of competition. The results of t-tests with competition condition as the independent variable revealed no differences in the rating of these traits. The two traits were rated by all participants as more likely of a young adult rather than an elderly adult.

Index Measures. In order to clarify the relationship between the linguistic abstraction measure and the trait measure, index measures were computed. Three linguistic abstraction index measures were computed. The LIBNeg measure was computed by subtracting the negative in-group ratings from the

negative out-group ratings. The LIBPos measure was computed by subtracting out-group positive ratings from in-group positive ratings. The LIBNeg and LIBPos measures have a range of 3 to - 3 with higher numbers indicative of bias. The LIBTot measure designed to give an overall measure of linguistic bias was computed by adding the LIBNeg and LIBPos measures together, the range of the measure is 6 to -6, again with higher numbers indicative of more bias.

Two trait index measures were computed for the two target groups. The Trait index for elderly targets was computed by subtracting negative trait ratings from positive trait ratings. The trait index for young targets was computed by subtracting negative trait ratings from positive trait ratings. Larger numbers for these two indexes is indicative of a positivity bias for the target group in question.

To assess the potential relationship between bias in language and bias in trait ratings, the index measures were correlated with each other (See Table 11). There was no evidence of any association between bias on the linguistic abstraction indexes and the trait indexes. The negative and positive linguistic indexes were both correlated with the total index, as we would expect, but the two measures were not correlated with either trait index. The two trait indexes were significantly correlated with one another.

Discussion

The first hypothesis predicted (in line with a SIT explanation) that Participants in the competition condition would exhibit more linguistic biases than in the no competition condition. There was no support for this hypothesis, both

competition and no competition participants exhibited linguistic biases, but only under experimentally manipulated typical conditions.

The overall pattern in the results of language abstraction revealed that when the behaviors were typical (experimentally manipulated), that typical linguistic biases were found for both competition and no competition participants. This finding is somewhat contrary to the results of Maass et al.'s second experiment in their 1996 study, in which they argued that situations of competition should invoke both SIT processes and differential expectancies. Maass et al. found that both Southern Italians who have a lower social status than Northern Italians exhibited more linguistic biases than Northern Italians. They argued that the lower social status of the Southern Italians facilitated more self-protective motivations relative to the Northern Italians. Their argument is supported by a meta-analysis of in-group favoring biases in which it was revealed that low status tends to lead to more biases relative to high status individuals or groups (Mullen, et al., 1992). While status and competition are not exactly the same psychological process, it may be argued that they may produce similar outcomes in the case of language. In the current experiment the Participants in the competition condition were lead to believe that scarce resources (funding for an education) were going to be taken away and given to another group. According to previous research findings the present study's Competition participants should have exhibited more biases than no competition Participants.

The expectancy hypothesis predicted that typical behaviors would be

described more abstractly than atypical behaviors. There was some support for this hypothesis, but only under the competition condition and only for experimentally manipulated typicality, did participants display more of a tendency to engage in linguistic abstraction relative to the no competition participants. All other abstraction comparisons based on typicality whether manipulated or assessed revealed no differences. Maass and her colleagues have found that typical behaviors are described more abstractly than atypical behaviors, however in all of the studies that manipulated typicality, the variable was treated as a with-in subjects variable. In the present study typicality was treated as a between subjects variable. In a with-in subjects design where participants view both typical and atypical behaviors, there is a direct point of comparison for the differences in behavior. In a between subjects design, perhaps the accumulation of typical behaviors or atypical behaviors forms a type of baseline evaluation within the type of behavior being viewed. Maass et al. (1996) point out that the variability of expected behaviors may have an effect on the use of language biases. This is one potential explanation for why typicality had its impact only on the competition participants, in that they were perhaps more motivated to look for differences or a point of comparison.

The second hypothesis, based on social identity theory, predicted that participants would rate their own group more favorably on trait ratings of both groups, assigning more positive traits to their own group relative to the out-group. This hypothesis was not supported. Participants rated both groups in line with stereotypes of both groups as outlined in the literature of age related

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stereotypes (e.g. Hummert, 1993). There were equal numbers of positive and negative traits for both groups, however contrary to a social identity explanation, more positive stereotypic traits were attributed to the out-group (the elderly). In fact, in terms of the number of positive and negative traits, the young group had eighteen negative traits and eight positive, while the elderly group had fifteen positive traits and eight negative traits. That the participants rated more positive traits in line with stereotypes of the elderly than of the young is somewhat surprising. The current participants could have been responding in ways that were different from the college students that these traits were derived from in the past research. The results of the trait ratings could reflect a social desirability bias by the current participants. The participants were asked to rate the traits in terms of which group was more likely to possess the trait. By making a direct comparison of groups, people may have been aware of how their responses may look to an outside observer.

While the SIT hypothesis concerning the trait ratings was not supported, it was found that when participants viewed typical behaviors in the linguistic abstraction task and the condition was competitive, people rated stereotypically negative traits more like the elderly than any of the other experimental groups. Which may indicate that competition and typical behaviors aid in making one's expectancies more salient. Maass and her colleagues have reported findings that indirectly support the supposition that competition and typicality may enhance one's expectations. In their 1996 study of Northern and Southern Italians, they found that under conditions of competition there was more reliance

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on typical behaviors (in this study typical behaviors were stereotypical of the target group) for both Northern and Southern Italians, but the reliance on typical behaviors to make judgments about the group was stronger for Southern Italians. This would be consistent with an expectancies explanation for the current findings.

The hypotheses based on an interplay of social identity concerns and expectancies, predicted that either (a) the stereotype of the out-group would be expanded to include a more competitive component under conditions of competition, or (b) that all expectancies would be strengthened, or (c) perhaps that positive expectancies would be strengthened. The data lends some support for the prediction that expectancies would be strengthened, when participants had previously viewed typical behaviors.

The results revealed a more complex pattern than was predicted by any of the hypotheses. The overall pattern that emerged for linguistic abstraction was that participants in both groups were more likely to engage in language biases when the behaviors were typical (experimentally manipulated). However, when the behavior was atypical, no competition participants rated these behaviors more abstractly relative to the typical behaviors and their competition counterparts and there was no indication of LIB for atypical behaviors.

When no competition participants viewed atypical behaviors they rated these behaviors more abstractly than no competition participants that viewed typical behaviors. Maass et al. (1996) have argued that differential expectancies are the main driving force of language biases and that under most

circumstances the level of abstraction should correspond to the typicality of the behavior regardless of protagonist group membership or valence. This was not the case in the current study. According to previous work on language biases, the no competition participants viewing atypical behaviors should have described those behaviors in largely concrete terms. One possible explanation for this finding is that a cognitive sub-typing process is occurring for these participants. On the one hand they see eight drawings that are relatively inconsistent with their previous knowledge about the target groups and these drawings are rated more abstractly than people rating typical drawings under no competition. Possibly, the level of abstraction is a reflection of treating the behavior of the targets in the atypical drawings as more dispositional, than as a reflection on the group as a whole. In terms of these participant's trait ratings we see an almost rebound type of effect where the stereotypic traits are rated as even more typical of the target group than when participants were in the no competition, typical drawings condition. Hewstone, Johnston, and Aird (1992), referred to the subtyping model of stereotype change as "more a model of non-change, or maintenance, than of change." (236).

Under the subtyping model of stereotype change (or non change), individuals that exhibit behavior inconsistent with the pre-existing stereotype are treated separately from the group as a whole, their behavior is treated as a reflection of the target's disposition rather than a reflection on the group as a whole, thus leaving the original content of the stereotype intact. Weber and Crocker (1983) found that when stereotype disconfirming information was

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concentrated in a few members of the group, a subtyping process that separated those members from the rest of group, and maintained the original stereotype was the most likely cognitive process to take and hinder stereotype change. The present findings under the no competition, atypical drawings condition are consistent with previous work on the subtyping cognitive process.

The participants in the competition condition with atypical drawings may have experienced more processing demands, brought about by the competition manipulation. Higher processing load may have prevented these participants from processing the atypical information in the same way as no competition participants. Stangor and McMillan (1992) found in a meta-analysis on expectancy effects that processing demands tended to favor social memory for congruent stereotypic information. The idea here is that greater processing demands tend to lead to reliance on previously held stereotypic expectancies (e.g. Gilbert & Hixon, 1991; Koomen & Witt, 1997; Macrae, Hewstone, & Griffiths, 1993). The participants in the competition condition with atypical drawings may not have had the cognitive resources necessary to process the atypical / incongruent information which may explain why competition Participants did not show the same pattern of results as no competition Participants.

Conclusion

The present set of studies was designed to answer questions about the potential moderating effect that social identity motives may have on differential expectancies in terms of linguistic biases. The general pattern of results from

both studies indicates that generally speaking, social identity concerns do not appear to be the driving force in the use of linguistic biases. Specifically, the present studies indicate that under situations in which little or no expectations for group level behaviors exist, social identity concerns prompted by mere categorization are not sufficient to produce linguistic biases (experiment 1). This finding is consistent with work by Harris (1993), in which the author found that under minimal group conditions trait evaluations revealed in-group favoritism, but there was no evidence for linguistic biases in an expectancy impoverished situation. The current findings (experiment 1) are also consistent with the work of Maass and her colleagues across several studies in which they found that even in the absence of social identity concerns (defined as conflict, competition, and mere categorization), stereotypic expectancies were sufficient to produce linguistic biases (e.g. Maass et al., 1995). It seems to be the case, based on a number of studies that impoverished expectancy situations (such as near minimal conditions or absence of group identifications) do not have the psychological underpinnings to produce linguistic biases.

Maass and her colleagues have also found that when social identity concerns are especially salient (i.e. when the group feels threatened by the out-group or when competition between groups is made salient), both processes of social identity and stereotypic expectancies appear to work in concert to produce linguistic biases. This finding was not confirmed in the present studies (experiment 2), in which both groups showed evidence of linguistic bias, but only when the behavior was typical. The usual type of linguistic bias pattern was

found under this condition, driven largely by ratings of the negative behaviors. In this case young adult participants rated the negative behaviors of elderly targets more abstractly than the negative behaviors of young adult targets. Further, competition participants who had previously viewed typical behaviors rated negative elderly adult traits as more likely of the elderly than any of the other condition by typicality groups.

Stereotypic expectancies appear to be at work for these participants to show the pattern of responses that was found in this study. A pure social identity process would have produced the linguistic biases and in-group favoring biases on the trait measure regardless of typicality. An interplay of both stereotypic expectancies and social identity concerns was not supported by the current study. The interplay explanation is based largely on the findings of Maass et al. (1996), in which behaviors that had been pretested as typical of a group were described more abstractly than behaviors typically ascribed to one group but attributed to the other group (atypical). The findings of the second experiment of this work do not support an explanation based on both processes, in that both competition and no competition participants showed linguistic biases but only in the typical condition.

It may be the case that linguistic biases are moderated by the variability of typicality. In the current study, when participants viewed atypical behavior they saw *only* atypical behavior which may have lead participants to discount this information thus resulting in no evidence of linguistic bias. The onslaught of atypical behaviors may also have simply confused participants, again resulting

in the differential use of linguistic biases for typical versus atypical behaviors.

Maass, et al. (1996) point out that variability in typicality and its impact on LIB is an area that warrants further investigation. The findings of the present study also suggest that more work is needed to understand the moderating effect that typicality may have on linguistic biases.

Limitations

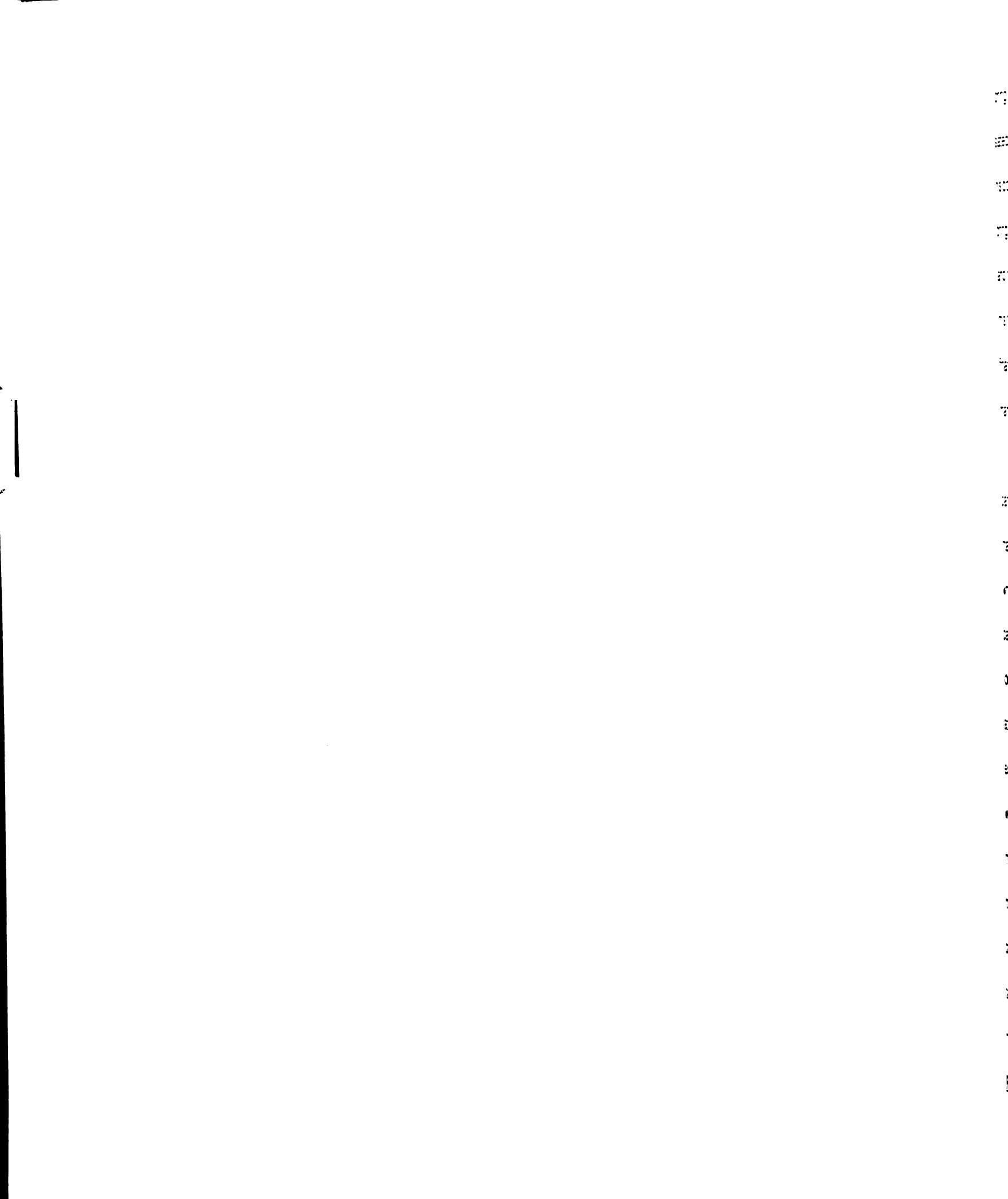
While the results of the current studies are consistent with some of the past research in this area, it is instructive to look at some of the weaknesses of this research. A potential drawback in both studies was the presentation of the experimental materials. The presentation of the linguistic abstraction task and the trait rating measure was counterbalanced in both studies, but presented in the same booklet. It is possible that some participants based their answers on one measure with how they answered on the other measure. This was especially likely in experiment 1, in which participants had little information on which to base their trait ratings. The author observed several participants ask the experimenters if they were supposed to make their trait ratings based on the drawings (if the drawings came first) or what they were supposed to base these judgments on (if the drawings were second). Many participants appeared to be confused as to what was being asked of them in the first experiment. However, the speed with which most participants completed the dependent measures left little to no time to go back and forth in the booklets, and reports from the experimenters confirmed that this appeared to be the case for most participants.

Another potential flaw in both experiments was the manipulation of

competition. In the first experiment, participants were lead to believe that one group would be allowed to leave the experimental session early with full credit given to their participation. Some participants may have viewed this as a punishment to whatever group would have to stay, rather than a reward situation. It is unclear from the literature the differential impact of reward versus punishment on linguistic biases, but if some participants did feel this way this may have contributed to the lack of linguistic biases in the first experiment.

It is believed that participants may have felt a sense of “failure” in the competition condition based on the memory task (viz. low absolute scores). While participants were not given any feedback on this task and it was administered prior to any dependent measures, it may have made participants feel that they were not only doing poorly on the task, but that their performance would also impact the whole group. The nature of the task is fairly difficult, and the “failure” experience may be avoided in future research by making the task easier and more familiar to the participants. The “failure” experience may also be avoided in the future by not administering any type of task; in this scenario, participants would be lead to anticipate the competition. Participants would complete the dependent measures before learning that there would be no competitive task to complete.

The manipulation of competition in the second experiment was based on a scarcity of resources concept between senior citizens and traditional college students. While informal reports from the participants indicated that some of them felt that the alleged reason for the financial aid package was good



(bringing senior citizens into the university environment), the use of money slated for traditional students was not warranted. As one participant wrote on his booklet, "I agree that it would be a good thing to diversify the campus and bring young folks and old folks together, but these people have had their chance and money for people just starting out shouldn't go to the elderly." Even given this type of informal report of attitudes, the number of participants receiving financial aid was not assessed and if a participant was not receiving aid, the manipulation may have lost salience for the participant.

Another potential problem in the second experiment was not assessing participants' prior knowledge and interaction with elderly adults. The manipulation in this study might have been more salient for those individuals who harbored some negative attitudes toward the elderly. The majority of participants indicated that they felt the alleged financial aid program was a good idea, which could be construed as an indirect measure of liking for the elderly or at least the potential for a social desirability bias. Social desirability is a potential explanation for the findings on the linguistic measure for positive behaviors, while not significantly different, elderly positive behaviors were described slightly more abstractly than young adult positive behaviors. A social desirability bias may also partially explain the pattern of trait ratings in which more positive behaviors were attributed to the elderly than to young adults. Future work should take care to control for potential desirability biases, or at the very least employ measures that can test for desirability effects.

Future Research

Intergroup

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Intergroup relations and the biases that accompany those relations is an important and timely topic area. The changing face of international relations is bringing more and more diverse groups into contact with one another. For example, the recent crisis in Iraq has forced many people in the United States to take a closer look at the Iraqi people and their leader. The impact of language on the judgments that we form is an important issue to face. Most of the work on the linguistic intergroup bias has focused on how perceivers describe behaviors, but this is only one side of the communicative properties of language. What impact does biased language have on the person being communicated with? For instance, what, if any impact does a statement like "The Iraqi people appear to blindly follow their leader and hate Americans." have on the American people? What if that type of statement is delivered by a street corner zealot, a respected journalist, a high ranking government official, does the statement make a different impact on subsequent judgments?

In this same line of the communicative impact of linguistic biases, how would juries respond to testimony delivered by an in-group member about the alleged criminal activity of an out-group member, does this type of testimony carry more weight if the testimony is in abstract language versus concrete language?

Finally, more work needs to be done to delineate how these linguistic biases may provide us with a less obtrusive measure of stereotyping. A recent paper on the linguistic intergroup bias found evidence for non-conscious, unintentional processing in terms of linguistic biases (Franco & Maass, 1996).

The authors tested members of basketball fan groups, one group known for its aggressive, derogating behavior, the other group known for its intolerance of unsportsman like conduct and aggressive behavior. They found that the aggressive group showed more discriminatory biases when measured by reward allocation or trait rating tasks. However, similar levels of linguistic biases were shown by both fan groups. The authors conclude that it is relatively easy to suppress or control biases on explicit measures, such as trait ratings or reward allocations. The implicit nature of linguistic biases are not subject to intentional control, hence the “less discriminatory” group still showed biases against the out-group. If linguistic biases are largely outside of intentional control, the issues of social desirability biases in most measures of stereotyping may be attenuated. Also, the findings from the second experiment of this package suggest that language biases may be used to indicate cognitive processes such as subtyping, or the other models of stereotype change.

Language is an important aspect of our everyday lives. It is in our best interest to fully explore how language may be used in the service of stereotype maintenance, stereotype change, as well as an indirect measure of stereotyping. The role of language in our perceptions of the social world we encounter can not be underestimated.

FOOTNOTES

¹ An example of a passive sentence where the causal relationships do not hold is: "Jim was admired by Tom." - Jim is the stimulus, subject of the sentence and causal agent, however the verb "admire" is an experiencer-stimulus verb that in its active form has the experiencer as the sentence subject, and the object as the stimulus and causal agent (e.g. "Jim admires Tom."). In terms of inanimate nouns, they can not take on verbs that imply an emotional state and still make sense (e.g. "The rock admires..."; "The house cheats...").

APPENDICES

APPENDIX A

APPENDIX A

Materials - Experiment 1

SERIAL LEARNING MEMORY TEST

ITEM LISTS

LIST 1

FET

LAH

RUP

NOL

WEP

RIW

NIV

WIM

KIJ

NIM

LIST 2

WEZ

LOR

TER

POL

LOP

LIK

COZ

GIW

QIZ

RYP

LIST 3

WIS

SEK

WAL

QUT

FIS

PER

MEP

NIW

BOT

ZOP

SERIAL LEARNING MEMORY TEST

For the following items, please mark the list you believe the syllable came from.

1. FIS
 - a. List 1
 - b. List 2
 - c. List 3

2. BOT
 - a. List 1
 - b. List 2
 - c. List 3

3. NIV
 - a. List 1
 - b. List 2
 - c. List 3

4. RYP

- a. List 1
- b. List 2
- c. List 3

5. LOP

- a. List 1
- b. List 2
- c. List 3

6. QUT

- a. List 1
- b. List 2
- c. List 3

7. SEK

- a. List 1
- b. List 2
- c. List 3

8. COZ

- a. List 1
- b. List 2
- c. List 3

9. LAH

- a. List 1
- b. List 2
- c. List 3

10. WEP

- a. List 1
- b. List 2
- c. List 3

11. TER

- a. List 1
- b. List 2
- c. List 3

12. RUP

- a. List 1
- b. List 2
- c. List 3

ACTOR / OBSERVER TASK

In a previous experiment people were tested using the Visual Acuity Test. Eight of these people (four people from Group X and four people from Group Y) kept detailed diaries of their daily activities for a month. Those diaries were later analyzed to determine whether and how perceptual mind set is related to behaviors.

We randomly selected one event from each diary and then had an artist draw a picture depicting that event. Those drawings are contained in this booklet.

Beneath each drawing there will be some sentences that describe the drawn event. Your task is to pick the sentence that provides the description of what is occurring in the drawing.

In the drawings all protagonists are called person A.

Members of Group X will have a capital letter X on their clothing.

Members of Group Y will have a capital letter Y on their clothing.

When you have completed this part of the experiment, please bring your materials to the front of the room and pick up the next booklet you are to complete.

You may now turn the page and begin the Actor / Observer Task.



Members of Group X will have a capital X on their clothing.

Members of Group Y will have a capital Y on their clothing.

Please choose the sentence that best describes the action in the picture above.

1. A punches person B.
2. A injures person B.
3. A dislikes person B.
4. A is aggressive.

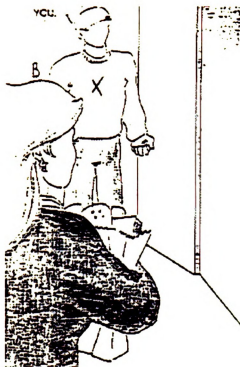


Members of Group X will have a capital X on their clothing.

Members of Group Y will have a capital Y on their clothing.

Please choose the sentence that best describes the action in the picture above.

1. A presents the seat to person B.
2. A assists person B.
3. A respects person B.
4. A is courteous.



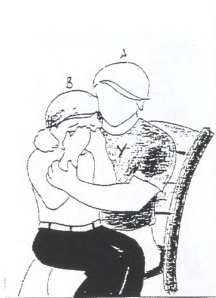
Members of Group X will have a capital X on their clothing.

Members of Group Y will have a capital Y on their clothing.

Please choose the sentence that best describes the action in the picture above.

1. A is holding the door for person B.
2. A assists person B.
3. A respects person B.
4. A is courteous.





Members of Group X will have a capital X on their clothing.

Members of Group Y will have a capital Y on their clothing.

Please choose the sentence that best describes the action in the picture above.

1. A holds person B.
2. A comforts person B.
3. A feels warmly toward person B.
4. A is caring.



Members of Group X will have a capital X on their clothing.

Members of Group Y will have a capital Y on their clothing.

Please choose the sentence that best describes the action in the picture above.

1. A is walking past person B.
2. A hinders person B.
3. A disrespects person B.
4. A is cold hearted.



Members of Group X will have a capital X on their clothing.

Members of Group Y will have a capital Y on their clothing.

Please choose the sentence that best describes the action in the picture above.

1. A shoves person B.
2. A hinders person B.
3. A is mad at person B.
4. A is aggressive.

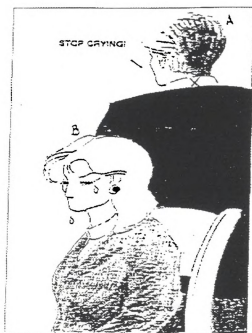


Members of Group X will have a capital X on their clothing.

Members of Group Y will have a capital Y on their clothing.

Please choose the sentence that best describes the action in the picture above.

1. A is talking with person B.
2. A comforts person B.
3. A feels sorry for person B.
4. A is empathic.



Members of Group X will have a capital X on their clothing.

Members of Group Y will have a capital Y on their clothing.

Please choose the sentence that best describes the action in the picture above.

1. A is looking away from person B.
2. A ignores person B.
3. A disrespects person B.
4. A is rude.

TRAIT RELATIONS TASK

Instructions:

We are interested in how you would characterize the “average, ” or “typical” person in either Group X or Group Y. We realize that every human being is unique and that it is difficult to generalize about a particular group. However, it is also true that an “average” does exist for any group. Try to keep the “average” person in mind as you complete this booklet.

On the page after these instructions you will find listed a series of adjectives. You are asked to place a number next to each adjective indicating whether it is more typical of the average member of Group X or the average member of Group Y.

The scale you will be using is:

- 1 = Group X much more than Group Y
- 2 = Group X somewhat more than Group Y
- 3 = Group X a little more than Group Y
- 4 = Group X and Group Y about equal
- 5 = Group Y a little more than Group X
- 6 = Group Y somewhat more than Group X
- 7 = Group Y much more than Group X

Here is an example of how you are to use the scales:

talkative 6

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

IMPORTANT:

- 1) Be sure you mark every adjective—do not omit any.
- 2) Never put more than one answer for any single adjective.

Again, the scale is:

- 1 = Group X much more than Group Y
- 2 = Group X somewhat more than Group Y
- 3 = Group X a little more than Group Y
- 4 = Group X and Group Y about equal
- 5 = Group Y a little more than Group X
- 6 = Group Y somewhat more than Group X
- 7 = Group Y much more than Group X

Please mark each item as a separate and independent judgment. Do not try to remember how you have marked earlier items even though they seem to have been similar. It is your first impression or immediate reaction about each item that is wanted.

Now, with an average person of both groups in mind, please go ahead and rate the person on the following adjectives.

indifferent
considerate
independent
unattractive
boastful
hopeful
dishonest
trustful
inflexible
impatient
self doubting
other-oriented
successful
insincere
agreeable
unsociable
sensitive
insecure
well adjusted
foolish
unlikeable
incompetent
empathic
involved
generous
unintelligent
courteous
passive

Again, the scale is:

- 1 = Group X much more than Group Y
- 2 = Group X somewhat more than Group Y
- 3 = Group X a little more than Group Y
- 4 = Group X and Group Y about equal
- 5 = Group Y a little more than Group X
- 6 = Group Y somewhat more than Group X
- 7 = Group Y much more than Group X

likeable
dejected
self confident
aggressive
intelligent
modest
sincere
attractive
insensitive
competent
cooperative
apathetic
dependent
secure
unsuccessful
honest
maladjusted
unfeeling
rude
wise
suspicious
caring
combative
flexible
inconsiderate
patient
self-oriented
sociable
selfish

Information Survey

Instructions: Please answer the questions below. Your responses will help us in making our analyses.

1. Sex: Male Female

2. Age:

3. Ethnicity:

4. GPA:

5. Major:

Please **RATE YOURSELF** by choosing a number from the scale below to indicate how true this is of **YOU RIGHT NOW**.

1 = very true of me right now

2 = sort of true of me right now

3 = neither true of me right now

4 = sort of untrue of me right now

5 = very untrue of me right now

_____ happy

_____ depressed

_____ angry

_____ appreciative

_____ grateful

_____ annoyed

_____ sad

_____ glad

_____ contented

_____ upset

_____ tense

_____ thankful

_____ pleased

_____ mad

_____ sorrowful

_____ elated

Please indicate whether there was any mention of competition by the experimenter.

YES

NO

I don't know



Please indicate whether there was any mention of leaving the session early by the experimenter.

YES NO I don't know

EXPERIMENTAL PURPOSE:

On this page, please indicate in your own words, what you believe to be the purpose of today's experiment.

Please indicate whether there was any mention of leaving the session early by the experimenter.

YES NO I don't know

EXPERIMENTAL PURPOSE:

On this page, please indicate in your own words, what you believe to be the purpose of today's experiment.





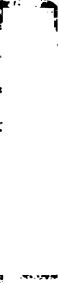
APPENDIX B

APPENDIX B

Materials - Experiment 2

ATTITUDES TOWARDS AGE & AGING

In today's study, we are interested in the opinions and attitudes of people concerning various topics dealing with age and ageing. Today, we would like you to read this short piece written by a Financial Aid Officer. When you have finished reading the memo, please indicate whether you agree or disagree with the proposal and why you hold the position you do.



MEMO

To:

From:

Subject:

Date: June 1, 1997

We have recently begun exploring ways to make our institution more responsive to the needs of non-traditional students. We have heard numerous complaints about our lack of services for retired citizens who wish to attend classes to broaden their experiences. We feel that bringing this type of student into the classroom is an excellent way to also broaden the experiences of our more traditional student body. Michigan State University has already begun to offer more evening courses to accommodate the non-traditional student, but we need to do more in addressing their needs. To this end we are proposing several financial aid packages aimed at recruiting older students (middle aged and senior citizens) to participate in our educational programs. The aid packages would be in the form of grants and fellowships based largely on age and desire to attend classes. While we feel this is an excellent way to entice older adults to the classroom, we would have to move money from some existing aid programs that currently go to the younger traditional student. Many traditional students could have their aid packages reduced or eliminated altogether. However, we believe the gains we envision outweigh the hardships some traditional students may face. We therefore recommend moving forward with the implementation of the Senior Adult Financial Aid Program.

MEMO

To:

From:

Subject:

Date: June 1, 1997

We have recently begun exploring ways to make our institution more responsive to the needs of non-traditional students. We have heard numerous complaints about our lack of services for retired citizens who wish to attend classes to broaden their experiences. We feel that bringing this type of student into the classroom is an excellent way to also broaden the experiences of our more traditional student body. Michigan State University has already begun to offer more evening courses to the curriculum to accommodate the non-traditional student, but we need to do more in addressing their needs. To this end we are proposing several financial aid packages aimed at recruiting older students (middle aged and senior citizens) to participate in our educational programs. The aid packages would be in the form of grants and fellowships based largely on age and desire to attend classes. We feel this is an excellent way to entice older adults to the classroom, and we are confident that the availability of financial aid for our younger, traditional students will not be affected by this new program. We therefore recommend moving forward with the implementation of the Senior Adult Financial Aid Program.

ATTITUDES TOWARDS AGE & AGING

1. Do you agree or disagree with the Senior Adult Financial Aid Program?

A. AGREE

B. DISAGREE

2. On a scale of 1 to 5, how strongly do you hold your opinion towards the Senior Adult Financial Aid Program?

- 1 Hold my opinion very strongly
- 2 Hold my opinion somewhat strongly
- 3 Neutral in strength of my opinion
- 4 Hold my opinion less than strongly
- 5 Strength of my opinion is very weak

3. If traditional student groups (i.e. ASMSU) were to organize protests against the Senior Adult Financial Aid Program would you participate in any of the following ways:

A. Write a letter to the editor of the State News.

Yes No

B. Attend a protest rally.

Yes No

C. Sign a petition against the program.

Yes No

4. On a scale of 1 to 5, how positive or negative do you believe the Senior Adult Financial Aid Program would be to the University?

- 1 Extremely Positive
- 2 Somewhat Positive
- 3 Neither Positive or Negative
- 4 Somewhat Negative
- 5 Extremely Negative



Person A is an elderly person.

Please choose the sentence that best describes the behavior of person A in the picture.

1. A is looking at a book
2. A is annoying person B.
3. A disrespects person B.
4. A is a thoughtless person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is a young person.

Please choose the sentence that best describes the behavior of person A in the picture.

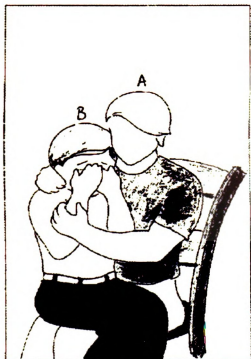
1. A is pushing person B.
2. A is hurting person B.
3. A is angry at person B.
4. A is an aggressive person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is an elderly person.

Please choose the sentence that best describes the behavior of person A in the picture.

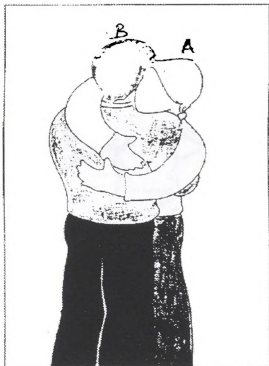
1. A is holding person B.
2. A comforts person B.
3. A feels warmly toward person B.
4. A is a caring person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is a young person.

Please choose the sentence that best describes the behavior of person A in the picture.

1. A is hugging person B.
2. A comforts person B.
3. A feels warmly toward person B.
4. A is a caring person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is an elderly person.

Please choose the sentence that best describes the behavior of person A in the picture.

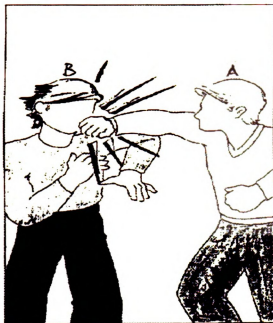
1. A is yelling at person B.
2. A hurts the feelings of person B.
3. A is angry at person B.
4. A is a crabby person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is a young person.

Please choose the sentence that best describes the behavior of person A in the picture.

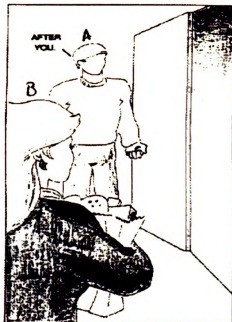
1. A is punching person B.
2. A hurts person B.
3. A is angry at person B.
4. A is an aggressive person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is an elderly person.

Please choose the sentence that best describes the behavior of person A in the picture.

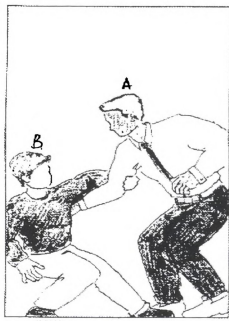
1. A is holding the door for person B.
2. A helps person B.
3. A respects person B.
4. A is a courteous person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is a young person.

Please choose the sentence that best describes the behavior of person A in the picture.

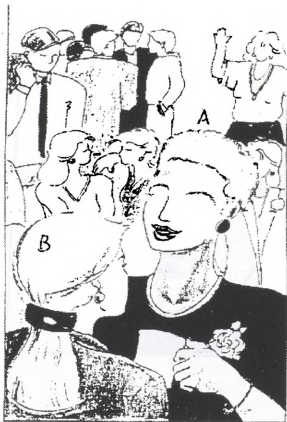
1. A is lifting person B.
2. A helps person B.
3. A respects person B.
4. A is a courteous person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is an elderly person.

Please choose the sentence that best describes the behavior of person A in the picture.

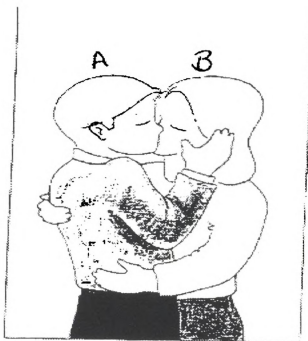
1. A is chatting with person B.
2. A interests person B.
3. A likes person B.
4. A is a friendly person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person



Person A is a young person.

Please choose the sentence that best describes the behavior of person A in the picture.

1. A is kissing person B.
2. A excites person B.
3. A desires person B.
4. A is a passionate person.

Is the behavior depicted above (please choose one):

- a. Very positive
- b. Positive
- c. Neutral
- d. Negative
- e. Very negative

In your opinion, do you believe the behavior depicted is generally more typical of:

- a. An elderly person
- b. A young person

TRAIT RELATIONS TASK

Instructions:

We are interested in how you would characterize the “average,” or “typical” elderly person (someone 69 or older) or a younger person (someone 25 or younger). We realize that every human being is unique and that it is difficult to generalize about a particular group. However, it is also true that an “average” does exist for any group. Try to keep the “average” person in mind as you complete this booklet.

On the page after these instructions you will find listed a series of adjectives. You are asked to place a number next to each adjective indicating whether it is more typical of the average elderly person or young person.

The scale you will be using is:

- 1 = Elderly Person much more than a Young Person
- 2 = Elderly Person somewhat more than a Young Person
- 3 = Elderly Person a little more than a Young Person
- 4 = Elderly Person and Young Person about equal
- 5 = Young Person a little more than an Elderly Person
- 6 = Young Person somewhat more than an Elderly Person
- 7 = Young Person much more than an Elderly Person

Here is an example of how you are to use the scales:

talkative 6

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

IMPORTANT:

- 1) Be sure you mark every adjective--do not omit any.
- 2) Never put more than one answer for any single adjective.

Again, the scale is:

- 1 = Elderly Person much more than Young Person
- 2 = Elderly Person somewhat more than Young Person
- 3 = Elderly Person a little more than Young Person
- 4 = Elderly Person and Young Person about equal
- 5 = Young Person a little more than Elderly Person
- 6 = Young Person somewhat more than Elderly Person
- 7 = Young Person much more than Elderly Person

Please mark each item as a separate and independent judgment. Do not try to remember how you have marked earlier items even though they seem to have been similar. It is your first impression or immediate reaction about each item that is wanted.

Now, with an average person of both groups in mind, please go ahead and rate the person on the following adjectives.

indifferent	___
considerate	___
independent	___
unattractive	___
boastful	___
hopeful	___
dishonest	___
trustful	___
inflexible	___
impatient	___
self doubting	___
other-oriented	___
successful	___
insincere	___
agreeable	___
unsociable	___
sensitive	___
insecure	___
well adjusted	___
foolish	___
unlikeable	___
incompetent	___
empathic	___
involved	___

Again, the scale is:

- 1 = Elderly Person much more than Young Person
- 2 = Elderly Person somewhat more than Young Person
- 3 = Elderly Person a little more than Young Person
- 4 = Elderly Person and Young Person about equal
- 5 = Young Person a little more than Elderly Person
- 6 = Young Person somewhat more than Elderly Person
- 7 = Young Person much more than Elderly Person

generous	___
unintelligent	___
courteous	___
passive	___
likeable	___
dejected	___
self confident	___
aggressive	___
intelligent	___
modest	___
sincere	___
attractive	___
insensitive	___
competent	___
cooperative	___
apathetic	___
dependent	___
secure	___
unsuccessful	___
honest	___
maladjusted	___
unfeeling	___
rude	___
wise	___
suspicious	___
caring	___
combative	___
flexible	___
inconsiderate	___
patient	___
self-oriented	___
sociable	___
selfish	___



Information Survey

Instructions: Please answer the questions below. Your responses will help us in making our analyses.

1. Sex: Male Female

2. Age:

3. Ethnicity:

4. GPA:

5. Major:

Please RATE YOURSELF by choosing a number from the scale below to indicate how true this is of YOU RIGHT NOW.

1 = very true of me right now

2 = sort of true of me right now

3 = neither true of me right now

4 = sort of untrue of me right now

5 = very untrue of me right now

_____ happy

_____ depressed

_____ angry

_____ appreciative

_____ grateful

_____ annoyed

_____ sad

_____ glad

_____ contented

_____ upset

_____ tense

_____ thankful

_____ pleased

_____ mad

_____ sorrowful

_____ elated

Please indicate whether there was any mention of loss of financial aid resources in the experimental materials.

YES

NO

I don't know

EXPERIMENTAL PURPOSE:

On this page, please indicate in your own words, what you believe to be the purpose of today's experiment.



APPENDIX C



Appendix C

Figures and Tables

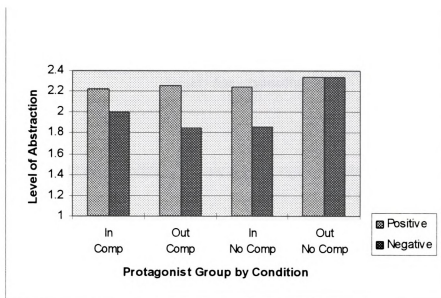


Figure 1 - LIB Means for Hypothesis 1, Experiment 1

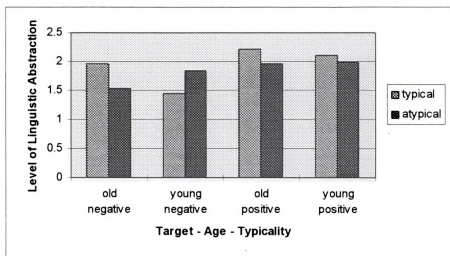


Figure 2 - Competition Condition - Means for Linguistic Abstraction, Exp. 2



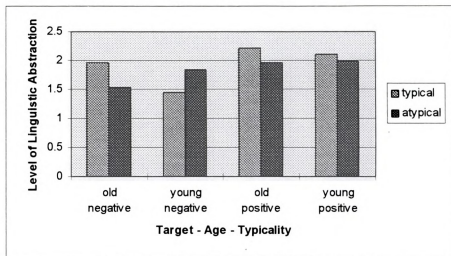


Figure 2 - Competition Condition - Means for Linguistic Abstraction, Exp. 2

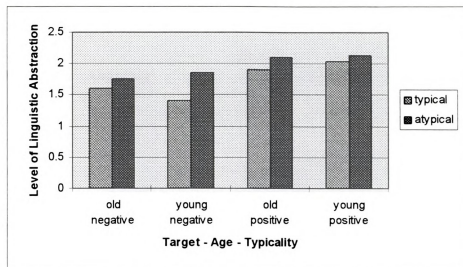


Figure 3 - No Competition - Means for Linguistic Abstraction, Exp. 2

Table 1 - Trait Factors

Factor 1		Factor 2	
Positive Likeability	Loadings	Positive Intelligence	Loadings
Honest	0.729	Competent	0.7469
Trustful	0.6413	Intelligent	0.70326
Empathic	0.6309	Successful	0.67773
Cooperative	0.62573		
Patient	0.62129	Negative Intelligence	
Likeable	0.61578	Unintelligent	-0.72339
Generous	0.60152	Incompetent	-0.68598
		Unsuccessful	-0.63984
Negative Likeability			
Insincere	-0.68225		
Dishonest	-0.64601		
Factor 3		Factor 4	
Positive Social	Loadings	Aggression	Loadings
Sociable	0.73787	Combative	0.61537
Attractive	0.65159	Aggressive	0.54343
		Foolish	0.48195
Negative Social			
Unsociable	-0.6659		
Unattractive	-0.3645		

Table 2 - Factor Means by Condition

	Competition (<i>n</i> = 91) <u>M</u> , SD	No Competition (<i>n</i> = 52) <u>M</u> , SD
Negative Liking	.112, .94	.582, 1.11
Negative Social	.077, 1.05	.500, .89
Aggression	-.068, 1.17	.481, 1.40
Positive Liking	.255, 1.00	.621, 1.10
Positive Social	.143, 1.14	.580, 1.04

Higher scores on negative factors indicates participants thought the trait more representative of the out-group.

Higher scores on positive factors indicates participants thought the trait more representative of the in-group.

Table 3 - One Sample t - tests for No Competition Condition

Trait Factor	t	p
Negative Likeability	3.77	<.001
Negative Social	4.07	<.001
Aggression	2.48	<.02
Positive Likeability	4.08	<.001
Positive Social	4.02	<.001

df =51

Table 4 - Correlations: LIB Index and Trait factors

	LIB index	LIB-pos	LIB-neg	- Intelligence	- Liking	- Social	Aggression	+ Intelligence	+ Liking	+ Social
LIB index	1.00									
LIB-pos	0.43*	1.00								
LIB-neg	0.84*	-0.14	1.00							
- Intelligence	-0.08	-0.03	-0.07	1.00						
- Liking	-0.09	0.07	-0.14	0.27*	1.00					
- Social	0.04	0.11	-0.02	0.38*	0.31*	1.00				
Aggression	-0.15	0.01	-0.18**	0.28*	0.63*	0.17**	1.00			
+ Intelligence	0.02	0.06	-0.02	0.72*	0.08	0.40*	0.04	1.00		
+ Liking	-0.13	0.07	-0.19**	0.36*	0.85*	0.41*	0.60*	0.26*	1.00	
+ Social	0.10	0.05	-0.14	0.29*	0.29*	0.65*	0.13	0.35*	0.35*	1.00

* $p < .01$

** $p < .05$

Table 5 - Linguistic Abstraction Means for Typical Behaviors

		Valence of Behavior	
	<u>M</u>	Positive	Negative
	<u>SD</u>		
Young		2.07 (.58)	1.43 (.69)
Elderly		2.07 (.68)	1.80 (.74)
n = 127			

Table 6 - Linguistic Abstraction Means for Atypical Behaviors

		Valence of Behavior	
	<u>M</u>	Positive	Negative
	<u>SD</u>		
Young		2.07 (.65)	1.85 (.70)
Elderly		2.05 (.55)	1.66 (.90)
n = 129			

Table 7 - Analysis of Variance Results for Competition by Target by Valence

***Note these results are blocked on typicality, the table is for typical drawings of both groups.**

Source	df	SS	MS	F	p
Competition	1	5.03	5.03	5.59	.020
Error	125	112.52	.90		
Target	1	4.05	4.05	13.16	.000
Comp x Target	1	2.38	2.38	7.74	.006
Error	125	38.44	.31		
Valence	1	26.77	26.77	95.35	.000
Comp x Val	1	.01	.01	.04	n.s.
Error	125	35.10	.28		
Target x Val	1	4.21	4.21	14.81	.000
Comp x Tar x Val	1	.07	.07	.26	n.s.
Error	125	35.54	.28		



Table 8 - Analysis of Variance Results for Participant Typicality

	F	p
Drawing 1		
Condition	1.940	.165
Typicality	0.910	.342
Cond. X Typicality	0.008	.927
Drawing 2		
Condition	0.002	.962
Typicality	2.390	.123
Cond. X Typicality	0.127	.722
Drawing 3		
Condition	0.010	.922
Typicality	0.626	.430
Cond. X Typicality	0.215	.643
Drawing 4		
Condition	0.389	.534
Typicality	2.606	.108
Cond. X Typicality	2.145	.144
Drawing 5		
Condition	1.723	.190
Typicality	1.510	.220
Cond. X Typicality	0.033	.857
Drawing 6		
Condition	2.707	.101
Typicality	0.320	.572
Cond. X Typicality	0.100	.753
Drawing 7		
Condition	0.493	.483
Typicality	0.032	.859
Cond. X Typicality	6.485	.011
Drawing 8		
Condition	0.012	.914
Typicality	0.002	.964
Cond. X Typicality	0.889	.347
Drawing 9		
Condition	0.264	.608
Typicality	0.092	.761
Cond. X Typicality	0.186	.667
Drawing 10		
Condition	0.216	.642
Typicality	0.005	.944
Cond. X Typicality	0.018	.893

Table 9 - Composite Trait Variables

* Higher numbers indicate more typical of young adults, with 4 as neutral.
 ** Lower numbers indicate more typical of elderly adults, with 4 as neutral.
 α = Cronbach's alpha as a measure of reliability.

**Young Adult
Positive**

Attractive
 Competent
 Flexible
 Hopeful
 Independent
 Involved
 Self-confident
 Sociable

M = 4.81*
SD = .66
n = 256
 α = .58

**Young Adult
Negative**

Aggressive
 Boastful
 Combative
 Dishonest
 Foolish
 Impatient
 Inconsiderate
 Indifferent
 Insecure
 Insensitive
 Insincere
 Maladjusted
 Rude
 Self-doubting
 Selfish
 Self-oriented
 Unfeeling
 Unsuccessful

M = 4.83*
SD = .57
n = 256
 α = .76

**Elderly Adult
Positive**

Caring
 Considerate
 Courteous
 Empathic
 Generous
 Honest
 Intelligent
 Patient
 Secure
 Sensitive
 Sincere
 Successful
 Trustful
 Well-adjusted
 Wise

M = 3.22**
SD = .55
n = 256
 α = .67

**Elderly Adult
Negative**

Dejected
 Dependent
 Inflexible
 Modest
 Passive
 Unattractive
 Unlikeable
 Unsociable

M = 3.32**
SD = .55
n = 256
 α = .37

Table 10 - Means for Composite Trait Variables

	Experimental Typicality	
	Typical	Atypical
Elderly Adult Negative Competition	3.26 .497 (66)	3.35 .557 (56)
No Competition	3.47 .519 (60)	3.22 .607 (73)
Elderly Adult Positive Competition	3.17 .515 (66)	3.29 .538 (56)
No Competition	3.17 .455 (60)	3.26 .661 (73)
Young Adult Negative Competition	4.90 .528 (66)	4.72 .567 (56)
No Competition	4.80 .636 (60)	4.88 .551 (73)
Young Adult Positive Competition	4.86 .582 (66)	4.75 .674 (56)
No Competition	4.69 .696 (60)	4.91 .688 (73)

Table 11 - Correlation Matrix for LIB and Trait Index Measures

	Trait - Elderly	Trait - Young	LIBNeg	LIBPos	LIBTot
T-Elderly	--				
T-Young	-.39*	--			
LIBNeg	.03	-.02	--		
LIBPos	-.10	.04	.00	--	
LIBTot	-.02	.00	.84*	.54*	--

* $p < .001$
 $n = 256$

1

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