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THE ROLE OF ESTEEM NEEDS IN INTERGROUP PROCESS

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ABSTRACT

THE ROLE OF SELF-ESTEEM IN INTERGROUP PROCESS

By

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Social Identity Theory (Tajfel & Turner, 1979) suggests that individuals may engage in intergroup discrimination as a way to develop a positive evaluation of their ingroups and thereby enhance members' personal self-esteem. An experiment was designed to examine issues of esteem enhancement in evaluations of ingroup and outgroup members. Subjects pretested for levels of personal as well as collective self-esteem were divided into two groups using a minimal-groups procedure. Experimental groups were given bogus feedback indicating either personal or group failure on a Social Accuracy Test, while controls received no performance feedback. Subjects then rated the "average member" of the ingroup and of the outgroup on several characteristics, ostensibly based on responses to bogus Personal Information Forms supposedly completed by other subjects in the session.

Results indicated that individuals high in personal esteem but low in collective esteem tended to show the greatest ingroup bias, primarily because they rated outgroup members lower than all other groups of subjects. The effect of threatening esteem was unclear since the feedback

manipulation had no effect on the main dependent measures. In addition, a taxonomy of individual differences in conformity to the predictions of Social Identity Theory (Hinkle & Brown, 1990) was not supported.

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Although much research has attempted to examine the role of self-esteem in intergroup processes (e.g., Brown, Collins, & Schmidt, 1988; Crocker & Major, 1989; Tajfel & Turner, 1986; Wills, 1981), clear conclusions in this area have yet to be drawn. Some have found evidence suggesting that the regulation of self-esteem may play a crucial role in mediating both evaluations of and reward allocations to one's own ingroup members as compared to an outgroup (Brown et al., 1988; Tajfel & Turner, 1986). Others, however, argue that esteem-regulation may be irrelevant to these processes (Ng, 1981, 1984; Messe', Hymes, & MacCoun, 1984; Vanbeselaere, 1987). Even among the supporters of an esteem-driven perspective, the precise role played by self-esteem in intergroup situations has not been clearly established.

The purpose of the current research is twofold. First, evidence for and against the notion that esteem-regulation plays a causal role in intergroup discrimination is critically reviewed. Second, an experiment is proposed to examine more carefully some of the unresolved issues in what is known as the self-esteem hypotheses of Social Identity Theory. Specifically, an experiment is proposed to provide evidence regarding whether esteem needs are an important underlying motivation driving the so-called "minimal groups effect," as well as to provide some clarification about how and when self-esteem needs influence intergroup relations.

It is important to know, for example, if esteem needs tend to encourage ingroup enhancement as opposed to outgroup derogation, and whether there are individual differences in the use of the intergroup situation for esteem-enhancement. Finally, the experiment will examine whether self-esteem or collective-esteem needs are more relevant to this process.

Social Identity Theory

The most coherent theory of esteem-regulation in group process is social identity theory (SIT), developed by Henri Tajfel and John Turner (1979, 1986). The theory is based on the notion that individuals are motivated to achieve positive self-regard or self-concept (Festinger, 1954), and that membership in social groups can be one means to achieve this. Specifically, these group memberships are associated with "positive or negative value connotations" (1986, p. 16), and so one will develop either a positive or negative social identity as a result of the evaluation of one's social group. Such evaluation is determined through comparison to specific outgroups (Tajfel & Turner, 1986).

Individuals are motivated to develop positive social identity because this contributes to a positive self-concept. In order to achieve this, individuals will perceive their social ingroup as comparing favorably to a relevant outgroup whenever possible. If the social identity is negative, individuals will either attempt to leave the group or to somehow make the group positively distinct along

some other dimension (Tajfel & Turner, 1986).

Brewer (1991) has recently suggested that individuals may seek social identities that offer what she terms 'optimal distinctiveness.' She argues that individuals possess competing needs for assimilation with and for differentiation from others. Individuals should be motivated to seek group memberships that offer opportunities for both a sense of belongingness and for distinctiveness from outgroup members. The idea is currently being subjected to empirical tests, and if supported, may provide valuable insight into the exact nature of the contribution of group membership to positive identity.

Recently, Abrams and Hogg (1988) as well as Hogg and Sunderland (1991) have identified two critical hypotheses concerning the causes and effects of intergroup discrimination derived from SIT: 1) Intergroup discrimination enhances social identity and should therefore result in higher levels of self-esteem, and 2) those with threatened or depressed self-esteem, because they are in need of greater esteem enhancement, should show increased ingroup bias. Self-esteem, therefore, is both a dependent variable (Hypothesis 1) and an independent variable (Hypothesis 2) in SIT. Both hypotheses should be empirically supported in order to provide evidence for the theory. As will be argued below, the existing empirical literature has fallen short of this goal.

The Minimal Groups Paradigm

The research paradigm generally used to examine SIT has been the minimal groups paradigm (Tajfel, 1970; Tajfel, Billig, Bundy, & Flament, 1971; Turner, 1975). Subjects are classified into two groups based on some trivial criterion, such as their preference for one of two painters (e.g., Billig & Tajfel, 1973; Tajfel, 1970) or their "overestimation" versus "underestimation" of the number of dots on a page (e.g., Tajfel, 1970; Tajfel, Billig, Bundy, & Flament, 1971). Sometimes the subjects are classified on an explicitly random basis, e.g., by the flip of a coin, or by a lottery process (e.g., Locksley, Ortiz, & Hepburn, 1980).

Remarkably, subjects grouped in these ways actually demonstrate intergroup discrimination favoring the ingroup over the outgroup. Specifically, subjects classified in this way preferentially allocate higher monetary or other rewards to members of their own group than to members of the outgroup (e.g., Tajfel, 1970; Turner, 1975). This is known as the "minimal groups effect."

Some researchers have even found that subjects in minimal groups experiments often attempt to maximize the difference between their group's rewards and the rewards of the outgroup, even when this requires a sacrifice of absolute gain for one's ingroup (Lemyre & Smith, 1985; Tajfel, 1970; Tajfel & Turner, 1986). Others, however, have suggested that the strategy of maximizing the

difference may be an artifact of the allocation matrices used by Tajfel and his colleagues, and have demonstrated that when using revised matrices, female subjects are likely to distribute equally between groups and male subjects are likely to attempt to maximize own-group reward (Bornstein, Crum, Witttenbraker, Harring, Insko, & Thibaut, 1983a). The maximizing difference strategy, then, remains controversial (Bornstein et al., 1983b; Turner, 1983a,b).

Despite controversy over the exact nature of the minimal groups effect, investigations conducted subsequent to the original studies have shown that discrimination in the minimal group is quite robust, extending to evaluations of groups' products (e.g., Bass & Dunteman, 1963; Jannsens & Nuttin, 1976; Worchel, Lind, & Kaufman, 1975) and ratings of in- and outgroup members (e.g., Brewer & Silver, 1978; Dion & Earn, 1975; Rabbie & Wilkens, 1971; Ryen & Kahn, 1975).

In addition, St. Claire and Turner (1982) examined and rejected the potential role of demand characteristics as an explanation for the minimal groups effect. They introduced a condition in which subjects who were not explicitly categorized themselves were asked to predict the responses of categorized subjects. If these "observers" had predicted the discrimination exhibited by categorized subjects, then a demand characteristics explanation of the minimal groups effect could not be rejected. However, those in the prediction condition thought categorized subjects should

distribute rewards more fairly between groups than they actually did. Findings such as these provide compelling evidence for the existence of a general in-group favorability bias.

The Nature of the Group

At this point it may be useful to mention that there exists some debate about whether the minimal groups paradigm actually examines group processes at all. McGrath (1984) reviews several perspectives that offer differing definitions of what features distinguish a 'group' from a mere aggregate of individuals. For example, some theorists require a lengthy period of ongoing interaction and influence before they will acknowledge a collective as a group. The minimal groups paradigm, then, would not be considered an examination of group or intergroup process by some theorists.

However, much of the interest in the minimal groups paradigm originates in the very fact that intergroup discrimination can be demonstrated therein. The fact that individuals divided randomly or minimally into groups will show discrimination based on these divisions argues that such processes are very basic in nature. It is important to document the minimal requirements needed for individuals to engage in discrimination because this will enhance our understanding of the processes involved in prejudice in the real world. Of course it is also important to examine such

processes using real-world paradigms, but such an examination is greatly enhanced by a more complete understanding of the basic processes involved at a more minimal level.

Real-World Evidence for the In-Group Bias

Empirical support for the two esteem hypotheses of SIT, however, has been equivocal at best (Brewer, 1979; Messick & Mackie, 1989). Although most evidence suggests that individuals do exhibit intergroup discrimination in favor of the ingroup, it has not been clearly established that they do so in the service of enhancing self-esteem, as suggested by SIT.

Let us first examine non-laboratory research that bears upon intergroup discrimination. Early research conducted in real-world settings suggested that individuals do appear to show intergroup discrimination. Zander and Armstrong (1972), for example, found that individuals working in a slipper factory who were high in "group pride" were likely to value ingroup products preferentially. Pettigrew et al. (1958) had Afrikaaners categorize photographs of people into European, Mixed, and Black categories and found that subjects were likely to place racially mixed individuals into the Black category instead of the mixed one. The authors argue that this effect obtained because the Afrikaaners were trying to maximize differences between their own European category and racially mixed individuals.

Evidence described as contrary to SIT was provided by Brown, Condor, Mathews, Wade, & Williams (1986). They examined intergroup relations in a paper factory and found that strength of group identification was only weakly related to discrimination. These authors argue that such findings run contrary to the predictions of SIT, but, as Taylor and Moghaddam (1987) point out, SIT does not make direct predictions about the relationship between strength of association and amount of discrimination. Instead, it may be argued that the salience of group membership and the strength of that association are distinct constructs (Taylor & Moghaddam, 1987).

Bass and Dunteman (1963) demonstrated that randomly divided work groups showed marked differences in evaluation favoring their own groups prior to a competition. When groups were combined into allied teams, estimations of allies rose significantly while ratings of groups that were allied with competitors decreased (Bass & Dunteman, 1963). Immediately after an announcement of defeat, losers' self-evaluations dropped but showed some recovery a day later. This gives some preliminary indication that the success or failure of a group may be an important mediator of one's group evaluations, a finding which has found much additional support (Brewer, 1979).

Ferguson and Kelley (1964) showed that randomly assembled groups who worked sequentially on a motor task, a

planning task, and a verbal task preferred their own group's product over an outgroup's product. Even group members who did not participate in the tasks showed this preference. Similarly, Zander and Armstrong (1972) showed that individuals working at a slipper factory were more influenced by feedback about their group's performance than about their personal performance. This finding complements the results of Jannsens and Nuttin (1976), who found that the expectancy of success is stronger among groups than among individuals. Taken together, these results provide some evidence that individuals are concerned about group performance, are highly likely to expect group success, and prefer their own group's product, even if they had no hand in its creation.

Evaluations appear to be influenced by group categorization as well. For example, Doise, Csepeli, Dann, Gouge, Larsen, and Ostell (1973) found that individuals rated ingroup members higher on nineteen evaluative traits than they rated outgroup members. This finding has been replicated many times (e.g., Ryen & Kahn, 1975), although there is some evidence that groups categorized on an explicitly random basis may not show these evaluative biases (Rabbie & Horwitz, 1969).

All of these findings demonstrate the existence of the ingroup bias in real-world settings, but none make an attempt to examine the causal mechanisms underlying the

effect. It is not clear that these individuals were either in need of esteem-enhancement or that these discriminatory activities resulted in improved self-esteem.

Alternative Perspectives: Normative Explanations

Alternative perspectives exist that attempt to explain the minimal groups effect or ingroup bias more generally without the use of self-esteem as a causal mechanism (e.g., Rabbie, Schot, & Visser, 1989). Some have described the effect as the product of certain normative explanations. Ng (1981, 1984), for example, attributes ingroup bias to the expectations that outgroup members may be likely to violate fairness norms. He found that biased allocations do not occur if subjects believe they are the only ones making such distributions. Ng suggested that previously found intergroup biases occurred because subjects were afraid that outgroup members would be likely to discriminate against them, and that subjects therefore needed to allocate in favor of their own groups in order to "balance things out." Insko et al. (1990) echo this view, suggesting that the bias may be simply due to an expectation of unfairness from the other group.

However, Ng's findings could be interpreted in alternative ways. Perhaps subjects maintained their initial intergroup biases but were afraid that they might be identified as the sole allocator and felt that the socially desirable response was to behave in an unbiased manner. In

this situation the desire to appear fair oneself would compete with the fear that others may not behave fairly, and it is difficult to determine which goal would have the stronger impact. This alternative would need to be addressed by manipulating allocator identifiability before any conclusions could be drawn.

An alternative normative perspective that may explain the minimal groups effect was suggested earlier by Tajfel (1972), prior to the formulation of SIT. When first demonstrating the effect, Tajfel suggested that it might be explained by the presence of a generic in-group norm (GIN) prescribing cooperation with and favoritism for members of one's own group. Individuals in intergroup situations might demonstrate discrimination not because it enhances their self-esteem to do so, but because they are behaving in accordance with what they perceive as appropriate norms governing the situation. In most real-group situations, they may reason, it is appropriate to behave in ways that favor one's ingroup, and they may therefore apply this norm to the new and strange laboratory situation.

Similarly, Messe' et al. (1984) suggested that norm activation may be an important mediator of biased allocation. Subjects who were appointed as work supervisors allocated pay to ingroup and outgroup confederate workers. Results indicated that subjects rewarded work more equitably when the worker was an ingroup member, regardless of whether

that person performed worse or better than the outgroup worker. No evidence of ingroup favoritism was uncovered. Messe' et al. suggested that individuals may believe that ingroup members are more likely to share their norms (in this case, that work should be rewarded equitably), and so treat them in a manner consistent with these norms more than outgroup members, whose normative beliefs are unknown. Although these findings indicate some support for a norm-driven explanation of ingroup bias, research designed to compare critically the generic in-group norm explanations and SIT has yet to be conducted.

Alternative Perspectives: Cognitive Effects of Categorization

Other research suggests that the maintenance of self-esteem may not play a causal role in intergroup discrimination but could instead be a by-product of other processes. Doise (1978) suggests that group categorization results in an accentuation of perceived differences between groups and of perceived similarities within groups. It is these cognitive perceptions and not esteem motivations that create the differences in both intergroup evaluations and reward allocations.

This view is echoed by Wilder (1986, 1990), who suggests that social categorization operates like any other categorization process. Individuals are motivated to maintain cognitive differentiation, because this is one

means of organizing the environment, and discrimination between groups allows one to maintain differentiation. Wilder further suggests that, in line with balance theory (Heider, 1958), individuals stand in a unit relationship with their own group, and that this implies an in-group bias.

Evidence for categorization views of intergroup bias suggests that individuals process information relevant to group membership differentially as a function of group categorization (e.g., Schaller, 1991). For example, it has been shown that grouping individuals on a minimal basis results in the perception that there is more intragroup than intergroup belief similarity (Allen & Wilder, 1979) and that outgroup members are more homogeneous than ingroup members (see Messick & Mackie, 1989, for a review), which may increase discrimination (Taylor, 1981). In addition, Wilder and Shapiro (1991) have also shown that increasing the salience of ingroup membership results in judgments of outgroup members that are more stereotypic in nature.

Wilder (1990) has also shown that individuals are more readily influenced by ingroup members than by outgroup members because they organize and interpret information differently for the two different types of sources. Gaertner and his colleagues (Gaertner, Mann, Dovidio, Murrell, & Pomare, 1990) found that cooperation between groups can reduce discrimination by encouraging group

members to view the aggregate as one larger group instead of two small ones.

Other findings suggest that intergroup bias may be reduced by various techniques that alter categorization processes. For example, Wit (in preparation) demonstrated that cross-categorizing subjects into subgroups as well as larger groups will affect the reward allocations subjects make to in- and outgroup members. Using evaluations of in- and outgroup members, Wilder (1978, 1990) found that information which differentiates an outgroup member from his or her group can reduce intergroup bias. For example, although outgroup communicators are generally less persuasive than ingroup speakers, subjects in Wilder's (1990) experiment were more persuaded by an outgroup communicator when given information that distinguished them from the rest of the outgroup.

In addition, Vanbeselaere (1987) demonstrated that cross-categorizing subjects into two concurrent groups attenuated intergroup bias as well. Some subjects were divided into two groups using either a random or a minimal division, and a third group of subjects was told that they belonged to one of four categories, which were created by criss-crossing the random and minimal categories. This third group of subjects, then, overlapped with some subjects on only one criterion, with others on both, and with still others shared no common category membership. Results

indicated that although subjects in the first two conditions showed measurable ingroup bias when making performance evaluations, those in the crossed condition showed markedly reduced ingroup bias.

When Vanbeselaere's subjects evaluated individuals who were ingroup members according to one criterion but outgroup members by another, it is not surprising that they did not discriminate against either. However, bias was attenuated even in conditions when subjects made evaluations of one person who was an ingroup member in both groups and another who was an outgroup member for both categorizations. This result is puzzling, because it supports neither esteem nor categorization explanations. Such an unusual finding warrants a thorough examination of the methods used by Vanbeselaere; however, such an investigation will not be provided here. One possibility that could be addressed by future research is that the cross-categorization manipulation was confusing to subjects, leading them to be uncertain whether a given individual was an outgroup member or an ingroup member by the various criteria.

The above findings provide some evidence that categorization processes are involved in intergroup bias. Turner (1985, 1990; Hogg & Turner, 1987; Turner & Oakes, 1986), in fact, has recognized the contributions of these processes by developing a self-categorization theory (SCT) that is broader in scope that social identity theory.

The central thesis of SCT is that group behavior occurs as a result of a depersonalization process, which in turn results from an individual's perception of salient ingroup-outgroup categorizations. Turner suggests that individuals perceive themselves as members of groups that fall within a hierarchical structure of categorization. Turner (1986) assumes that individuals are motivated to view categories which contain the self as positive, and suggests that ingroup members are evaluated more positively than outgroup members because the former are seen as more prototypical of the self-category.

The SCT formulation of Turner (1985, 1990) reflects the importance of categorization in the development of intergroup bias, but Turner notes that this perspective is not necessarily incompatible with processes of esteem-regulation. It may be, Turner notes, that self-esteem is enhanced through discrimination even if this is not the causal mechanism underlying the formation of psychologically distinct in- and out-groups. This implies, then, that Hypothesis I of SIT (i.e., that discrimination should result in enhanced self-esteem) might be valid but that Hypothesis II (i.e., that individuals engage in discrimination in order to enhance self-esteem) is not. Wilder (1986) also suggests that the two perspectives are not mutually exclusive; he argues that although categorization produces evaluative and allocational bias in intergroup situations, self-esteem may

certainly be affected by engaging in such discrimination.

It appears, then, that the categorization theorists do not preclude the involvement of self-esteem in intergroup bias, but they simply do not accord it a causal role in the process and may instead relegate it to the status of a by-product of the categorization process. Since self-esteem may indeed be affected by discrimination, it is difficult to subject categorization and SIT explanations to a critical test. However, some research that attempts to provide evidence for the causal role of self-esteem will be proposed in a subsequent section.

Limitations of the Minimal Groups Effect

Some researchers and theorists have not attempted to formulate alternative explanations but have simply called into question the robustness of the minimal groups effect or the validity of SIT (e.g., Abrams & Hogg, 1988). Sachdev and Bourhis (1985, 1991) found that groups given low social power relative to an outgroup showed less discriminatory credit allocations than those high in power. The authors suggest that the perception of social power is necessary to achieve intergroup discrimination. This may be especially damaging to Hypothesis 2 of SIT, in that those low in power would presumably be in greater need of enhancement than would those high in power. In addition, power differentials are likely to be especially strong in real-world settings because people are not as free to fix their social

identities as positively as they often can in the laboratory (e.g., Garza & Santos, 1991).

In addition, Doise et al. (1973) and Rabbie and his colleagues (Rabbie & Horwitz, 1969; Rabbie & Wilkens, 1968) demonstrated that the anticipation of interaction with the ingroup increases intergroup discrimination. This does not appear highly limiting to the theory, however, since without interaction the groups have little psychological reality. It seems likely that the majority of real groups have or anticipate some form of interaction among members. In addition, Kahn and Ryen (1972) demonstrated that the ingroup bias occurs even without knowledge of the identity of in- and outgroup members and without actual communication among ingroup members, although the reader may note that the possibility that some sort of interaction will occur was not eliminated in their design.

A potentially more serious limitation to SIT has been proposed by Hinkle and his colleagues (Hinkle & Brown, 1990; Hinkle, Brown, & Ely, 1990). They propose that only individuals who possess a collectivist orientation in a comparative group situation show a strong ingroup bias. The individualist/collectivist construct (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988) differentiates an emphasis on personal achievement and interpersonal competition versus one on cooperation, collective achievement, and identification with ingroup members. This distinction seems

similar to the collective self-esteem construct suggested by Crocker and her colleagues (e.g., Crocker & Luhtanen, 1990). The second dimension described by Hinkle and Brown (1990) is the comparative/noncomparative ideology, which distinguishes those who use intergroup comparisons to evaluate the ingroup versus those who use more internalized, non-comparative norms for the same purpose.

Using this taxonomy, Hinkle et al. (1990) had subjects undergo a minimal groups procedure, work on an intergroup task, and complete measures of intergroup differentiation and self-esteem. Specifically, subjects were first classified into the four cells of the taxonomy (collectivists/individualists and comparative/noncomparative ideologies) during a pretest session. They then participated in groups of three to six in an experimental session ostensibly examining decision-making in newly formed groups. The group was asked to suggest ideas for recruiting students to their university, and afterwards, they viewed a videotape of another group's discussion (outgroup stimulus). Subjects made ingroup and outgroup ratings and then completed a Rosenberg (1965) self-esteem inventory. Hinkle et al. found that the correlations between self-esteem and intergroup differentiation were nonsignificant in all taxonomy cells except the one containing collectivist/comparative individuals.

This research suggests that there may be important

individual differences mediating whether individuals are likely to engage in discrimination in the service of enhancing self-esteem. Although the results need replication in order to ensure that they are reliable, the initial findings are certainly suggestive. It seems important, therefore, to include measures of the taxonomy distinctions in future work in this area.

Other research has also suggested that there may be individual differences in how closely individuals conform to the predictions of Social Identity Theory. McClintoch and his colleagues (1972; Platow, McClintoch, & Liebrand, 1990) have suggested that the social values individuals hold may determine whether they allocate resources in a more or less biased way. Specifically, prosocial individuals are more likely to allocate resources fairly than are competitive persons. The suggestion is intuitively compelling, but so far it has only been examined using the reward allocation paradigm. The Social Values hypothesis would also need to be tested using an evaluative paradigm before its implications for intergroup research can be fully understood.

Laboratory Evidence for Esteem-Bolstering

Many investigators have conducted laboratory research that attempts to address SIT's assertions that intergroup discrimination may bolster self-esteem (Hypothesis 1) and that those low in esteem are especially likely to engage in

such activities (Hypothesis 2). Oakes and Turner (1980) categorized subjects by painting preferences and then had half their subjects complete a matrix booklet of point allocations (experimental condition) while the other half read newspapers (control condition). They measured the subsequent self-esteem of the subjects and found that those in the experimental condition, who did allocate more points to ingroup members, reported higher self-esteem than did controls. This finding supports Hypothesis 1 of SIT.

One criticism that could be made of the study was that the two tasks, making allocations and reading the newspaper, were not equal in their psychological impact, and that differences in esteem could be ascribed to this difference. In addition, those in the newspaper condition were told they would later be quizzed on the contents of their reading, which could have resulted in anxiety and therefore lowered reports of self-esteem.

Lemyre and Smith (1985) addressed these limitations through a fairly complex design. Their conditions included either categorization alone, intergroup discrimination alone, or both. Some subjects distributed points freely between two ingroup members, between two outgroup members, or between an ingroup and an outgroup member. Others were forced to discriminate in favor of the ingroup, and a final group was forced to distribute points equally. The key prediction was that those who were categorized and who

either were allowed to or were forced to discriminate in favor of the ingroup before completing the self-esteem measure would exhibit higher levels of self-esteem than those in any other condition. Consistent with this (and with SIT's Hypothesis 1), those given both categorization and discrimination opportunities did report higher self-esteem than either manipulation alone.

However, this study is also subject to an alternative explanation. Perhaps subjects in the categorization only or discrimination only conditions were confused. They may have wondered what the purpose was of the groups that suddenly appeared but had no bearing on the activities in the experiment, or of the allocation decisions that were to be made without group membership information. Such confusion may have lowered their self-esteem compared to the less ambiguous dual manipulation condition. A similar argument about these findings is outlined by Luhtanen and Crocker (1991). Perhaps a more appropriate control condition might be to inform subjects that there are group categories but that they will not be told to which group they belong.

A recent study (Hogg & Sunderland, 1991) has also attempted to provide evidence for Hypothesis 2. The authors conducted an experiment in which social categorization (group vs. individual) and transitory self-esteem (giving success vs. failure feedback on a test of 'interpersonal

empathy') were manipulated. Results indicated support for SIT, in that group-categorized subjects given failure feedback discriminated more when giving reward allocations than any other group.

However, the results are weak, since the reward allocations of the success but not the failure condition showed a significant departure from zero. In addition, Hypothesis 1 was not upheld, in that greater discrimination did not appear to result in elevated self-esteem relative to other conditions. Another problem with this study is that the experimenters did not explicitly measure pre- and post-test levels of self-esteem. Instead, they measured self-esteem immediately after the success/failure manipulation for control-group subjects and after discrimination for the experimental group subjects. The results could be more easily interpreted and would be stronger if they had provided evidence for actual change in esteem levels, since this would avoid any such time of measurement artifact. Again, then, the support for SIT is equivocal.

<u>The Locus of the Minimal Groups Effect</u>

Based on the theories and findings described above, then, it is unclear how strong a role self-esteem needs play in intergroup processes. In addition, even if such needs are an important part of the minimal groups situation, it is unclear how they might operate. For example, it is unclear from the literature whether ingroup bias exists as

favoritism toward the ingroup or as derogation of the outgroup. Brewer notes in her 1979 review that the majority of studies conducted to examine intergroup bias simply computed a difference score by subtracting ratings or allocations to the outgroup from the ratings or allocation to the ingroup (e.g., Doise & Sinclair, 1973; Ferguson & Kelley, 1964). Such a procedure makes it impossible to determine whether individuals were actually favoring the ingroup, derogating or allocating against the outgroup, or both.

After examining the studies that did report ratings of both the ingroup and outgroup separately, Brewer (1979) concludes that the majority of studies suggest that individuals favor their ingroup as opposed to derogating an outgroup (e.g., Mummedey & Schreiber, 1983; Ryen & Kahn, 1975; Stephenson, Skinner, & Brotherton, 1976; Worchel et al., 1975), but notes that several studies found evidence for both ingroup favoritism as well as outgroup derogation (e.g., Kahn & Ryen, 1972; Wilson, Chun, & Kayatani, 1965), or for outgroup derogation alone (e.g., Howard & Rothbart, 1980; Rabbie et al., 1974; Worchel et al., 1977).

Because several experiments have documented an outgroup derogation effect, it is surprising that Brewer (1979) concluded that the locus of the ingroup bias is generally in ingroup enhancement alone, with a few seemingly random exceptions. It seems more likely that there are systematic

differences between the studies which found support for different loci of the ingroup bias. It is possible, for example, that there is some variable moderating whether an individual is likely to prefer one strategy or another. This variable, however, has yet to be found.

Differences in Self-Esteem and Intergroup Situations

One potential moderator of the locus of ingroup bias is self-esteem. Individuals engage in a variety of behaviors designed to enhance or bolster self-esteem (e.g., Brown, 1990), and research has shown that individuals chronically high and low in self-esteem (HSE and LSE, respectively) may differ in the ways they use intergroup behaviors to achieve these goals. Brown and his colleagues (Brown, Collins, & Schmidt, 1988), for example, have demonstrated that HSE individuals may be more likely to display in-group favoritism when they have been directly involved in group processes. Individuals of LSE, however, are more likely to show favoritism towards ingroups when not directly involved in the group.

Specifically, individuals were asked to rate ingroup and outgroup products after either helping their ingroup's production or after arriving subsequent to its completion. Individuals low in self-esteem showed an enhanced ingroup bias in the latter condition, but those high in self-esteem showed an enhanced ingroup bias in the former condition.

Brown et al. (1988) explain these findings by

suggesting that HSE individuals are more likely to see self-enhancement, or esteem bolstering, opportunities when in situations that directly link themselves to positive outcomes. LSE individuals, on the other hand, are unable to see themselves as directly linked to positive outcomes because they possess negative self-concepts, and so they self-enhance by displaying favoritism towards an ingroup in which they are not directly involved. This process is similar to findings of downward comparison among individuals experiencing a threat to self-esteem (Wills, 1981).

Other research suggests that threatened individuals may use indirect self-enhancement techniques. One such example has been labelled basking in reflected glory, or BIRG, as described by Cialdini (e.g., Cialdini, Border, Thorne, Walker, Freeman, & Sloane, 1976; Cialdini & Richardson, 1980). In two sample experiments, it was shown that individuals who were given failure on a creativity test were especially likely to enhance the quality of their ingroup or home university and derogate a rival or outgroup university.

In contrast to these findings, Crocker and Schwartz (1985) conducted a minimal groups experiment in which they measured levels of self-esteem. All subjects showed a general in-group bias and level of self-esteem did not appear to moderate the effect. However, high self-esteem subjects were more positive overall in their ratings than were their low self-esteem counterparts. Perhaps no

differences emerged as a function of self-esteem because there was no evaluative context for the groups; in other words, no potential threat to self-esteem existed within the group context.

Recent evidence from an interpersonal paradigm suggests that individuals low in self-esteem may be more likely to publicly derogate a source of threat to esteem than their HSE counterparts (Baumgardner, Kaufman, & Levy, 1989). The authors suggest that individuals high in self-esteem may possess cognitive mechanisms that allow them to diffuse an esteem-threat without needing to do so publicly. However, those low in esteem do not possess such cognitive coping mechanisms, and so must use more public means of esteem-regulation.

Specifically, the authors demonstrated in a series of four experiments that individuals low in self-esteem use strategic self-presentations as a means to improve their self-affect. In the first three experiments, they presented subjects with personality feedback ostensibly generated by either an interaction partner or a computer program and then gave subjects an opportunity to respond to the feedback and its source either privately or publicly.

Although high self-esteem subjects showed a general self-serving bias, i.e., privately rating a source of positive feedback as more accurate, intelligent, and likable than a source of negative feedback, low self-esteem persons

were likely to compliment a source of positive feedback and derogate a source of negative feedback only when they believed that their responses would be publicly available. When they thought their reactions were private, however, they did not rate the source of positive feedback as more competent than the source of negative feedback. In a fourth experiment, they further demonstrated that when induced to publicly compliment a source of positive feedback or derogate a source of negative feedback, LSE persons reported a greater rise in self-affect than did those induced to do so privately. No such difference was found for those high in esteem. Taken together, the results of these four experiments indicate that although HSE individuals are likely to use private self-enhancement techniques such as the self-serving bias, LSE persons attempt to discredit negative feedback publicly and that this process serves similarly to enhance self-affect.

A variety of research supports the notion that individuals high but not low in esteem are likely to engage in cognitive distortions that serve to enhance self-esteem, including an exacerbated self-serving attributional bias (Ickes & Layden, 1978), overestimation of personal control (Baumgardner, Heppner, & Arkin, 1986), unrealistic optimism about future events (Taylor & Brown, 1988), and overestimation of past success (Nelson & Craighead, 1977). Such distortions allow HSE individuals to diffuse

cognitively any potential threats to esteem by dismissing them as unrealistic.

Since LSE individuals do not engage in such cognitive distortions, they may be more likely to regulate self-esteem through interpersonal means, i.e., by derogating a source of threat such as a negative evaluator (Baumgardner et al., 1989). Through convincing others that the negative evaluator is incompetent or dislikable, the LSE individual hopes to raise his or her self-estimation. Any rise in self-affect is probably temporary, however, since others generally react negatively to those who frequently derogate others. This explains why such a public derogation strategy will ultimately be ineffective for maintained high levels of self-esteem.

It is possible that LSE persons react similarly in intergroup situations as they have been found to do in interpersonal ones. Perhaps the inconsistent results of ingroup favoritism versus outgroup derogation described by Brewer (1979) might be explained by differences in self-esteem. Specifically, it is possible that although group members high in esteem are likely to cognitively enhance the ingroup and so do not need to derogate the outgroup, LSE group members may be unlikely to believe that their group is truly superior (Brown et al., 1988).

For this reason, LSE individuals might be likely to derogate the outgroup in an attempt to enhance their social

identities. This explanation might also explain why the majority of studies reviewed by Brewer (1979) found ingroup favoritism, since the majority of subjects used can be expected to be relatively high in self-esteem. It may be that the studies that found derogation as well as favoritism contained by chance relatively more group members low in self-esteem or else lowered self-esteem artifactually through their experimental manipulations.

A series of experiments has addressed some of these issues directly. Meindl and Lerner (1984) had some English-speaking Canadian students suffer an esteem-lowering experience (they accidentally knocked a stack of a grad student's cards off a table and into disarray). Afterward, these students responded more extremely, both positively and negatively, when asked to rate Canadian Francophones, a relevant outgroup. Extreme ratings in both positive and negative directions were explained as an attempt to maintain the superiority of the ingroup, either through derogation or condescenwng over-generosity.

The research is suggestive of a relationship between failing or esteem-lowering experiences and evaluations of outgroup members. However, the authors made no attempt to examine why some individuals might overrate and some might underrate outgroup members, although a few speculations were offered. In addition, the research did not examine ratings of the ingroup, and therefore offered no opportunity for

subjects to engage in direct rather than indirect self-enhancement. The results, therefore, are intriguing, but leave many questions unanswered.

The Locus of the Minimal Groups Effect Revisited

The above research suggests a more careful examination of the studies cited by Brewer (1979) in which outgroup derogation was obtained. It should be determined whether there exist manipulations that would be likely to alter self-esteem of the participants, since this would provide the best evidence for the notion that individuals' intergroup behaviors may be mediated by their level of self-esteem.

One such study was conducted by Wilson, Chun, and Kayatani (1965). These researchers had undergraduates play a Prisoner's Dilemma game and rate both their partner and an opponent on personality and competence dimensions both before partnerships were formed and after gameplay. Results indicated that individuals increased their ratings of partners as well as decreased their ratings of opponents. These subjects, then, appeared to engage in both ingroup enhancement and outgroup derogation simultaneously.

It is important to note that the subjects played a Prisoner's Dilemma game. The majority chose a competitive rather than a cooperative strategy, and the authors note that although the potential payoff of a mutually cooperative strategy was $.40 per dyad, most subjects received less. In

fact, only one dyad out of twenty received as much as $.40. It could easily be argued that the subjects felt they had "failed" at the game and that this temporarily lowered their self-esteem. It could be that this is why these subjects exhibited outgroup derogation when subjects in other studies have not.

Other researchers have also found evidence for both ingroup favoritism and outgroup derogation. Rabbie et al. (1974), for example, had triads prepare for intergroup interactions designed to simulate labor negotiations. They manipulated intergroup orientations (cooperative vs. competitive) as well as strength of bargaining position (strong vs. weak). They then measured ingroup cohesion as well as ratings of outgroup members.

Results indicated that competitive groups were more cohesive when they had a strong as opposed to a weak bargaining position. However, cooperative groups were more cohesive when they had a weak bargaining position than when they had a strong one. In addition, cooperative groups and strong groups rated the outgroup more positively than did competitive and weak groups, respectively.

In line with the possibility that self-esteem may influence intergroup perceptions, it is not unreasonable to suppose that the manipulation of group strength may have had an impact on subject's levels of esteem. Specifically, those given a weak position may have felt less positive

about themselves or about their group than those given a strong position. In addition, perhaps the anticipation of competition lowered esteem as well by suggesting the possibility of a competitive context in which one or one's group could fail, thus providing a threat to self-esteem. These explanations could account for the main effects on outgroup ratings.

There is even some suggestion in this study that self-esteem may interact with other variables to influence intergroup ratings. If bargaining position did directly influence self-esteem, then it is interesting to note that when placed in a cooperative situation, those in a weak position (low esteem) felt more positively about their group than did their strong-position counterparts (high esteem). However, the opposite pattern obtained when subjects were placed in a competitive situation. This suggests that those high versus low in self-esteem may react differently to an intergroup situation as a function of situational variables, especially variables such as competition that may create a potential threat to esteem.

Kahn and Ryen (1972) also uncovered both an ingroup enhancement and outgroup derogation effect. They had subjects participate in a simulated football game and they manipulated group success (100%, 50%, and 0%) as well as individual competence (80% vs. 50% vs. 20% successful plays chosen). Subjects then completed private ratings of their

own group and of the other group. Results indicated that subjects who were part of successful groups rated outgroups lower than did subjects who were part of unsuccessful groups.

In addition, and perhaps more interestingly, low-competence subjects rated their own team lower than their high-competence counterparts in the 0% and 50% success conditions but higher than the latter in the 100% success condition. These results demonstrate, then, that when subjects make private ratings, individuals low in competence rate a failing ingroup more negatively and a succeeding ingroup more positively than high-competence individuals. Since personal competence could be expected to influence temporary self-esteem, it appears that in private rating conditions, individuals low in esteem do not enhance the ingroup but those high in esteem do.

A final experiment that demonstrated differences in outgroup attraction was conducted by Worchel et al. (1977). These researchers divided subjects into two groups and then had them either compete or cooperate on an industrial simulation task. Later, the two groups were combined in all conditions and worked cooperatively on two tasks. They received feedback that the combined groups had either failed or succeeded on the second and third tasks.

For those groups that had previously competed, failure on the joint effort resulted in outgroup derogation, while

joint success resulted in increased ratings of the outgroup. By contrast, those groups that had previously cooperated increased ratings of the outgroup regardless of joint success or failure feedback. The latter findings seem questionable, however, in that subjects in the previous-cooperation conditions really never had an opportunity to distinguish their own group from the outgroup. If the two groups cooperated on all three tasks, in what sense were two groups created?

Gaertner and his colleagues (Gaertner, Mann, Dovidio, Murrell, & Pomare, 1990) addressed these limitations by having two groups of three individuals participate in a winter survival problem exercise before combining the two groups into one larger one. In some conditions, individuals were encouraged to recategorize the 6 person aggregate from two groups to one large group, while in others, individuals were encouraged to retain the two-group representation. Amount of cooperation between the two groups was also varied. Results indicated that subjects in the recategorization condition showed an attenuated ingroup bias, as did those whose two groups cooperated on a subsequent task.

It is easier to interpret Worchel et al.'s findings in the previous-competition condition. Here, subjects who failed derogated the outgroup while subjects who succeeded improved ratings of the outgroup. In view of findings that

indicate the importance of response publicity on such ratings (e.g., Baumgardner et al., 1989), it would be interesting to learn whether subjects perceived the ratings to be private or public. The experimenters note that the subjects were all "brought together" to complete their ratings, and it may be that subjects felt their ratings might be seen by or be accessible to others in the experiment. If so, the findings (i.e., that those in the failure (low esteem) conditions derogated the outgroup while those in the success (high esteem) enhanced the outgroup) would be in line with those obtained by Baumgardner et al. (1989) in the interpersonal domain. Since all of the findings of outgroup derogation discussed above are at least suggestive of the role of self-esteem and of potential situational mediators such as the presence of threat and the publicity of the response, it seems reasonable to suggest that the Baumgardner et al. (1989) affect-regulation model might be applied to intergroup situations in an attempt to better understand the locus of the minimal group effect.

Collective versus Personal Self-Esteem

Another question about the nature of esteem-regulation in the intergroup context is whether self-esteem as traditionally conceived and measured is the moderator of the ingroup bias. An alternative to personal self-esteem that might be more influential in intergroup situations has been suggested by Crocker and Luhtanen (1990); Luhtanen and

Crocker, 1989, 1991). These authors propose that only those individuals who are high in what they term 'collective identity' will respond according to SIT's predictions. Collective identity measures the extent to which individuals generally evaluate their social groups positively (Crocker & Luhtanen, 1990).

The authors suggest that there exist stable individual differences in the degree to which people possess a positive collective identity, and that this level of collective esteem is a type of self-esteem unique from the traditionally defined personal self-esteem. Although personal self-esteem may moderate reactions to personal failure, it may be collective self-esteem that determines one's responses to threats to one's group such as group failures (Crocker & Luhtanen, 1990).

To test this hypothesis, Luhtanen and Crocker (1989) developed a measure of collective self-esteem, which they administered in a subsequent investigation to 85 introductory psychology students (Crocker & Luhtanen, 1990). The subjects were arbitrarily divided into groups and were given group success or failure feedback on their performance on a test said to measure interpersonal and intellectual abilities. They were then asked to rate their own group (minus themselves) and the other group on a series of descriptive positive and negative adjectives.

Results indicated that individuals high but not low in

collective self-esteem were likely to alter their ratings of above- and below-average scorers in a direction that enhanced their ingroup. No such differences emerged when the sample was reanalyzed using personal rather than collective self-esteem. The findings were somewhat equivocal because direct ratings of ingroup versus outgroup members showed an overall ingroup bias but no interaction with collective self-esteem. However, they clearly imply that the impact of collective self-esteem warrants further investigation.

Luhtanen and Crocker (1991) note that an unresolved issue in this area of study is whether high or low esteem individuals are more likely to engage in self-enhancement. They mention the Brown, Collins, and Schmidt (1988) study described above and express puzzlement over the these authors' findings that those low in esteem were the ones engaging in certain types of enhancing activities.

Similar to the Crocker et al (1987) experiment described above, a crucial difference may be the publicity of the enhancement activities. It may be that individuals low in esteem are likely to attempt public self-enhancement, and that no such opportunity was made available in the studies conducted by Crocker and her colleagues. The publicity of in- and outgroup evaluations is one factor that should be examined more carefully.

Remaining Questions: The Role of Self-Esteem

This review of the literature, then, suggests that the role of self-esteem in intergroup relations remains unclear. Several important questions remain unanswered. First, are esteem needs an important underlying motivation driving the minimal groups effect, or are they simply by-products of a different process? In other words, are individuals simply responding to cognitive categorizations or to perceived situational norms, or are they attempting to regulate actively their levels of esteem? Second, if esteem needs do play a causal role, how do they operate? Do they tend to encourage ingroup favoritism or outgroup derogation, or does it depend upon the individual? Third, are self-esteem or collective-esteem needs more relevant in an intergroup situation? Finally, do individual differences variables such as those suggested by Hinkle and Brown (1990) influence the likelihood of individuals engaging in discriminatory behavior?

Overview: An Experiment

The purpose of the present paper, then, is to present an experiment designed to address these four questions. It was expected that esteem-regulation would be a motivating concern in intergroup situations, since the perception of an outgroup produces a potential opportunity to engage in esteem-bolstering. Individuals should therefore be motivated to engage in intergroup discrimination, particularly following a threat to esteem. Specifically, it

was expected that individuals categorized according to the minimal groups paradigm would be particularly likely to engage in discrimination when either their collective or personal self-esteem is threatened.

The design of the experiment was a 2 (self-esteem: high vs. low) X 2 (collective esteem: high vs. low) X 2 (responses: public vs. private) X 3 (feedback: personal vs.collective failure feedback vs. none) factorial design. Upon arrival at the experimental session, subjects pretested for levels of personal and collective self-esteem were divided into groups using a minimal-groups procedure. They then completed a bogus Social Accuracy Test, on which they were given either failure feedback on their personal or their ingroup's test performance or no feedback.

Subjects were then asked to rate a member of their ingroup as well as a member of the outgroup on various evaluative dimensions. In order to address the question of publicity raised by the findings of Crocker et al (1989) and of Baumgardner et al. (1989), subjects were led to believe that their ratings would either be made publicly available to both members of the ingroup and outgroup or would be kept private.

It was predicted that individuals low in esteem who are given failure feedback would rate outgroup members less favorably in public than in private. This is because these individuals should be especially motivated to self-enhance

following a threat to self-esteem, and because of the inability to use private coping strategies, they should be more likely to choose outgroup derogation rather than ingroup enhancement as the method to achieve self-enhancement. Because of the lack of private coping mechanisms, this pattern should be attenuated or even reversed under private rating conditions.

In addition, those high in esteem were expected to rate ingroup members more favorably than those low in esteem regardless of the privacy or publicity of the responses. This is because these individuals should enhance the self through ingroup enhancement, and this tendency to do so may be insensitive to the publicity of the response.

It is important to note that the predictions deviate from the findings of Baumgardner et al. (1989) in one important way: individuals are expected to derogate outgroup members even though the latter are not the source of the threat to self-esteem. In the Baumgardner et al. studies, individuals were able to "retaliate" against the source of a negative evaluation by derogating the source of that evaluation. In the current experiment, the source of the feedback was not the outgroup but instead was a third party; namely, the computer.

Should the predicted findings obtain, they would extend the affect-regulation model of Baumgardner et al. in an important new direction: individuals, particularly those

with chronically low levels of self-esteem, might use public opportunities to derogate not only sources of threat but also outgroup members, or individuals who are different from them on some relevant dimension.

This finding might be predicted by those who have studied the authoritarian personality (e.g., Altemeyer, 1988; Staub, 1989). These researchers, along with others, have demonstrated that individuals with authoritarian personalities tend to possess feelings of moral superiority, a submissive respect for ingroup authorities, and hostility to outgroup members. Authoritarian individuals are likely to repress their hostilities and even project them onto the outgroup, thereby "justifying" prejudicial treatment of those who are different. It may be that individuals low in self-esteem respond to threatening situations similarly to authoritarian individuals, and are also therefore likely to blame and punish outgroup members when experiencing a perceived threat.

The present prediction is also supported by some recent data collected using the minimal groups paradigm. Noel, Wann, and Branscome (1992) have shown that individuals with an insecure social identity tend to use public derogation of outgroup members to attempt to strengthen their ties to the group. Specifically, they showed that peripheral members of an attractive group will advocate more coercive strategies for persuading an outgroup member to perform a task than

will others when the strategy selection is made publicly. Insecure individuals, then, are using a public, negative response to outgroup members as a means for attempting to strengthen their ingroup identity.

It was unclear whether personal or collective failure would produce the strongest results; one would expect that the former would more strongly mediate the responses of those differing in personal self-esteem and the latter would be more relevant to differences in collective self-esteem. Therefore, the type of self-esteem which proves to show the strongest influence on intergroup bias may determine whether personal or collective failure is more powerful. The results of Noel et al. (1992) might suggest that collective esteem is more relevant, in that it was a form of insecure collective identity that was produced in their experiment. However, since they made no attempt to measure insecure personal identity, it cannot be argued that the former but not the latter is likely to produce the predicted results.

Generally, should the predicted findings obtain for either personal or collective self-esteem, this might explain the uneven pattern of results concerning the locus of the ingroup bias described by Brewer (1979). If subjects respond differentially (i.e., using ingroup enhancement versus outgroup derogation) on the basis of self-esteem, then experiments which artifactually lowered self-esteem should have found relatively more outgroup derogation. As

is argued above, this may explain why some but not all experiments have found ingroup enhancement, outgroup derogation, or both.

It should be noted that the prediction of the affect-regulation model stands in opposition to results obtained by Crocker, Thompson, McGraw, & Ingerman (1987), who found that HSE individuals were more likely than their LSE counterparts to derogate outgroups. However, since the ratings were private, in that they were not to be made available to others, I believe that this situation did not allow LSE an opportunity to engage in the public derogation found by Baumgardner et al. (1989) and so does not provide a valid test of typical behavior in intergroup settings.

In the present research, then, it was predicted that when such evaluations of ingroup and outgroup members are made public, the opposite pattern will emerge: just as individuals low in self-esteem are more likely to engage in negative gossip about sources of unflattering evaluations (Baumgardner, Kaufman, and Sheppard, 1992), they are also more likely to publicly derogate outgroup members if they feel threatened.

In line with the results of Luhtanen and Crocker (1988; 1991), it is possible that threats to collective esteem might provide stronger motivation to redeem one's identity through intergroup discrimination. Therefore, it could be predicted that threats to collective esteem would result in

stronger discrimination than will threats to self-esteem. However, it could also be argued that following a threat to collective esteem, subjects might conclude that their group (but NOT themselves) is incompetent. Therefore, the question of whether personal or collective self-esteem is more important remains open and should be examined.

One final issue is whether it matters who the "public" is that subjects expect to read their responses. It could be argued, for example, that subjects might respond differently if they think the experimenter as opposed to the target of their evaluation will read their responses. However, Baumgardner et al. (1989) used both the experimenter and the derogated other as the expected public and found similar results. Therefore, this issue was not addressed empirically, but the experimenter was used as the reader of the evaluations in all public conditions.

Implications

The implications of the research are straightforward. Testing of these hypotheses should provide some much-needed clarification of the role of esteem-regulation in intergroup contexts. Will intergroup discrimination indeed result in attempts to enhance esteem when it is temporarily threatened? Do individuals high versus low in esteem engage in qualitatively different discrimination strategies when confronted with a threat to self-esteem in an intergroup context? Do collective esteem needs play a more powerful

role than personal self-esteem needs in intergroup contexts?

Answers to these questions could help to clarify waters muddied by inconsistent findings and could provide information about individual's social identities and the ways in which they respond to persons they perceive as unlike themselves. Should the predicted findings obtain, this would suggest that the need for esteem enhancement may indeed play a causal role in creating discrimination in an intergroup context. If certain types of individuals, namely, those low in personal or collective self-esteem, are more likely to engage in discrimination following a failure experience, this would provide support for Hypothesis 2 of SIT; namely, that individuals with low self-esteem should be subsequently more likely to engage in discrimination. Such findings would also provide a potential explanation for why some experiments have demonstrated outgroup discrimination while others have not.

In addition, the research should also clarify certain aspects of the role of self-esteem in intergroup discrimination. For example, it may be demonstrated that the tendency to derogate the outgroup versus enhance the ingroup is moderated by individual difference variables such as self-esteem or the orientations described in Hinkle's taxonomy (e.g., Brown & Hinkle, 1990). Therefore, subjects will be divided into the taxonomy categories for some ancillary analyses to examine this possibility. The

comparative impact of personal versus collective self-esteem will also be examined. Most broadly, it is hoped that the current research would provide some insight into the nature of intergroup discrimination, which would hopefully result in a step toward the resolution of intergroup conflict.

METHOD

Subjects

Two hundred ninety female undergraduate psychology students were selected on the basis of pretesting to participate in an hour and a half long experimental session in exchange for partial credit toward a class requirement. Female subjects were chosen simply because they were more plentiful in the subject pool.

Procedure

During a course meeting, eleven hundred introductory psychology students completed the Rosenberg (1965) Self-Esteem Inventory, modified to a Likert-type format (see Appendix 1), as well as the Collective Self-Esteem Scale (Crocker & Luhtanen, 1991) (See Appendix 2). The two scales were presented in counterbalanced order. Female students were selected and were divided using median splits into groups high/low in personal/collective self-esteem. These groupings were then used to contact subjects to participate in the experimental session.

Upon arrival at the experimental session, groups of five subjects were seated individually in curtained booths containing Apple 2E computers. Subjects were told that there were actually eight subjects participating in the session; in order to increase the believability of this,

subjects were led to believe that some subjects were run in a different room down the hall, and experimenters pretended to escort in additional subjects after all real subjects were seated behind the curtains. No subjects expressed suspicion concerning this manipulation.

Subjects were then greeted by a computer screen asking them to enter their names and student numbers and then to hit the letter 'C' to see the first page of instructions. They were then told that they would be completing three tasks in the session: they would first complete a perceptual task measuring dot estimation tendencies, then would complete a test measuring a construct called social accuracy, and then would be asked to make some judgments about other subjects in the session.

The dot estimation task. In the first task, subjects completed a task and then were told they had been divided into two groups ostensibly based on their estimation of the number of dots on a page (Tajfel, 1970). As originally described by Tajfel and colleagues, this technique calls for asking subjects to estimate the number of dots presented on a screen and then ostensibly dividing them into "overestimators" and "underestimators." In reality, subjects are randomly divided into two groups.

In the present experiment, subjects were given two practice trials and then were shown 16 dot patterns flashed quickly on the computer screens. They were then asked to

enter their estimation of the number of dots on each screen. After all trials, subjects were told that the computer was scoring their responses and that while they waited they should answer several questions presented on the screen. Subjects then completed a measure of collectivism/individualism developed by Triandis and colleagues (Triandis, Bontempo, Villareal, Asai, and Lucca, 1988) (See Appendix 3).

After, subjects were told that the computer had finished scoring their dot estimations. All subjects were told that they were 'underestimators,' or people who consistently underestimated the number of dots on the screen. All subjects were given the same subject ID number of 88, and were shown a screen indicating that three of the other seven subjects in their session were underestimators and the other four were overestimators. Subjects were told that for ease of coding, these group memberships would be retained and used later in the experimental session.

The feedback manipulation. All subjects were then instructed by computer to complete a bogus Social Accuracy Test, which was introduced as a measure of "interpersonal sensitivity in social situations." This test has been used successfully in other research as a means for temporarily threatening self-esteem by creating a failure experience (Baumgardner, Kaufman, & Ervin, 1992).

Subjects read a one-page biography on paper of an

individual named Albert who was undergoing a stressful period in his life. The biography gave limited information about the history and personality of the individual. When they were finished, subjects were asked to complete several questions on computer both about Albert's likely childhood experiences as well as predictions about his future. Subjects were told that the biography was based on a factual account and that therefore the real answers to the questions were known.

When subjects finished answering the questions, one of three feedback manipulation screens was presented. In the personal failure conditions, subjects were told that they had answered 4 out of 14 questions correctly. To increase their belief in the accuracy of this feedback, subjects were given a list of the four questions they had supposedly gotten right. They were also given information indicating that the average MSU student answered 8 questions correctly, and that a score of 6 or below was considerably below average.

In group failure conditions, subjects were told that no information about their personal performance was available, but that on the average in their underestimator group, subjects had scored 4 out of 14. They were again given normative information about the performance of the average MSU student. Finally, in no feedback conditions, subjects were given the normative information but were told that

unfortunately no information about their own or their group's performance was available.

Ratings of other subjects. All subjects were then asked to rate the other members of their ingroup as well as the members of the outgroup on several evaluative dimensions. First, subjects were asked to complete a Personal Information Form asking them several trivial questions about themselves (see Appendix 4). Subjects were told that they would all read each others' questionnaires and would then make judgments about the other subjects in the session. This was being done, it was explained, in order to study how individuals make judgments about other people about whom they have very little information.

After all subjects had completed these forms, the experimenter took them to another room, ostensibly to photocopy them. He/she then returned with seven photocopied forms, grouped by over- and underestimators, ostensibly filled out by the other subjects in the session. In reality, the forms had been filled out ahead of time, and were counterbalanced with respect to the group membership ascribed to each.

Subjects were then asked to evaluate the "average underestimator" (excluding themselves) and the "average overestimator" on several traits based on the Personal Information Forms. In particular, the traits measured included intelligence, likability, kindness, popularity,

honesty, and attractiveness (see Appendix 5). Subjects always evaluated the underestimators before the overestimators.

In the public response conditions, the subjects were asked to write their names and student numbers on their response sheets and were told to raise their hands when finished so that the experimenter could come over and read their responses immediately following completion. Subjects were not told that their responses would be evaluated in any way, simply that the experimenter would like to read them. In order to strengthen this publicity manipulation, these subjects were also told to be extra careful when filling these out because they might be used as examples to be shown to future subjects in the experiment.

In the private response conditions, subjects were asked to be sure not to include any identifying marks on their evaluations, and to put their sheets in the same community box marked 'private' when finished. These subjects would be assured that no one except data coders would have access to their responses and that their anonymity was assured. In actuality, subjects' sheets could be identified by the color of pen used to complete them, since each booth contained a different color pen.

Manipulation checks and debriefing. Following the collection of the rating sheets, all subjects then used the computers to answer several manipulation check items

designed to assess the success of the experimental manipulations as well as to probe for suspicion or confusion (see Appendix 6). In addition, the first six questions presented measured comparative/noncomparative ideology as described by Brown and Hinkle (1990) (See Appendix 6).

Finally, subjects were debriefed thoroughly and gradually, according to principles outlined by Mills (1976). Suspicion and confusion were assessed and noted. All deceptions were gradually explained as well as the reasons why such deception was necessary. Following a brief educational period outlining some of principles of groups research, subjects were given credit and excused. For a detailed experimental protocol, please refer to Appendix 7.

Dependent Measures

The main dependent measures assessed in this experiment were the subjects' responses to the nine evaluations of the average ingroup member and the nine evaluations of the average outgroup member. These measures were examined using both the main independent measures described above as well as the measures of relational/autonomous orientations and individualism/collectivism constructs described by Hinkle et al (1990). Additional dependent measures included manipulation check items and a few other questions of interest to be described in the following chapter.

RESULTS

Median splits were used to divide the sample into groups high and low in collective self-esteem and personal self-esteem. The medians for these groups were 5.56 (SD = .82) on a 9-point Likert-type scale and 4.1 (SD = .75) on a 5-point Likert-type scale, respectively. Median splits were also used to divide the sample into relational versus autonomous orientations (median = 4.2, SD = 1.96, on a 9-point scale) and individualists versus collectivists (median = 5.76, SD = .67, on a 9-point scale).

Correlations between the individual difference measure were calculated, and several were found to be significant es the $p < .01$ level. First, the correlation between personal and collective self-esteem was .30 in the present sample. This is consistent with the findings of Crocker and Luhtanen (1990), who have reported correlations in the low .30's. In addition, collective esteem was significantly correlated with collectivism ($r = .22$), indicating that although the two constructs seem similar conceptually and do share some variance, they are not identical constructs. Finally, personal self-esteem was negatively correlated with relational orientation in the present sample ($r = -.21$), indicating that there was some tendency for individuals with higher self-esteem to possess a more autonomous orientation. No other correlations between individual difference variables were significant.

Manipulation Check Items

Several questions asked by computer at the end of the experimental setting were designed to evaluate the effectiveness of the experimental manipulations. The list of such questions may be found in Appendix 5. Overall, an examination of the responses to these items indicates that the manipulations were indeed perceived as intended by subjects, although there were indications that the feedback manipulation was not as impactful as had been intended.

The publicity manipulation. Subjects were asked two questions to assess the effectiveness of the response publicity manipulation. First, when asked on a 9-point Likert-type scale how private they felt the evaluations of the other subjects had been, those in the private condition rated the evaluations as much more private (M = 7.05) than did those in the public condition (M = 2.29), $t(1,224)=12.80$, $p < .001$.

Responses to a second, similar item revealed the same pattern. Subjects were asked how anonymous their evaluations were on a similar 9-point Likert-type scale, and those in the private condition again rated their responses as much more anonymous (M = 4.77) than did those asked to make their evaluations publicly (M = 8.04), t (1,224) = -9.23, $p < .001$.

The feedback manipulation. Subjects were asked several questions requiring them to both recall and evaluate the

positivity of the feedback they received on the Social Accuracy Test (see Appendix 5). Frequency analyses were used to determine the number of subjects who were able to accurately recall the feedback they or their group had received. First, when asked if they had taken a Social Accuracy Test, all subjects correctly recalled that they had.

Second, subjects were asked if they had received personal feedback on the Social Accuracy Test. Of those in the personal failure (PF) conditions, 98.7% correctly answered that they had received personal feedback, while 64% of those in the group failure (GF) conditions responded accurately that they had not. For those in the no feedback (NF) conditions, 95% remembered that they did not receive personal feedback.

When asked if they had received feedback about their group's performance, 66% in the PF conditions said that they did not, while 87% of those in the GF conditions said that they did. A sizable majority of 84% of those receiving no feedback (NF) correctly indicated that they received no group feedback.

It seems that on these first items subjects were more easily able to report receiving the feedback that they did receive than the feedback that they did not. This is probably because subjects were unaware of the existence of the other feedback conditions and so were less sure why they

were being asked about group feedback if they had only received personal feedback. They may have wondered if they had missed some feedback information or they might surmise that the group score and personal score reflect each other somewhat.

On a series of third items, similar to the second, subjects' accuracy increased somewhat, which might indicate that some subjects' initial confusion may have lessened. When asked if they had received a personal score on the test, 100% of those in the PF conditions recalled that they had, while 86% in the GF and 97% in the NF conditions correctly answered negatively. Similarly, 83% in the GF conditions remembered receiving a group score, while 74% of PF and 96% of NF recalled that they had not.

Subjects were then asked to report the score they or their group had received. Sixty percent of PF and 95% of GF subjects accurately recalled the score of 4, while 97% of NF subjects reported correctly that they received no score. Finally, subjects were asked to evaluate the positivity of the feedback on a 9-point Likert type item ranging from 1 (very negative) to 9 (very positive). For those subjects receiving feedback, the mean response was 3.10 (SD = 1.4), indicating that the subjects did perceive the feedback as somewhat negative.

A Z-test was performed to determine whether this mean was significantly different from the midpoint of 5.0, and

the z-score was marginally significant, $z = -1.36$, $p < .09$. Given the general tendency demonstrated in much social cognition work for individuals to discount negative feedback, it does seem that individuals had some comprehension of the negativity of the feedback, although the impact of this manipulation was not as strong as had been intended.

Overall, then, these frequencies suggest that a vast majority of subjects were able to identify correctly the type of feedback they had received as well as the types of feedback they did not receive. In addition, those who received failure feedback were likely to report this feedback to be somewhat negative, although statistical analyses fell short of significance.

Reliability analyses

Several scales were used in this experiment, and the reliabilities of the less-established ones were assessed using internal consistency reliabilities as well as one principal components analysis. Since the scale properties of the Rosenberg (1965) self-esteem scale have been so widely examined, no attempt was made to re-examine them here.

First, internal consistency reliabilities were used to examine the Collective Self-Esteem scale borrowed from Crocker et al. (1990). The scale alpha was .88, so the scale proved to be acceptably reliable in the present

sample. Second, the Individualism/collectivism scale (Triandis et al., 1988) was examined. The alpha for this scale was .74, indicating marginally acceptable reliabilities. One item, "If you want something done right, you've got to do it yourself," showed almost no variation at all. Almost all subjects endorsed the anchor, "strongly agree." Eliminating this item, however, did not measurably alter the reliability (alpha = .74).

Third, Hinkle et al.'s (1990) 6-item relational/autonomous scale was analyzed. Inter-item and item-total correlations were strong, and the alpha of .94 was quite high. The scale properties for this questionnaire, then, seem quite good.

Finally, it was decided to make two scales for the nine evaluation ratings subjects made of the ingroup and the outgroup. The scales were created by taking the mean of the nine evaluations. A principal components analysis of the combined evaluations indicated that one factor could be extracted from the nine responses, and the eigenvalue for this factor was 5.51. The factor explained 61.2% of the variance. All items loaded onto the factor at or above .68.

For the TOTOWN scale, or summary of the ratings of the ingroup, item-total correlations ranged from .56 to .72 and the Cronbach's alpha was .89. For the TOTOTH scale, or summary of outgroup ratings, item-total correlations ranged from .48 to .74, and alpha was .88. These scales, then

demonstrate acceptable reliabilities, and since principal components analysis revealed only one factor, no further attempt to examine the responses to individual items could be justified.

Main Dependent Measures

Four main ideas were to be tested in this experiment. First, it was predicted that individuals whose esteem had been threatened would respond differentially to an intergroup situation. Specifically, those with chronically low esteem were expected to derogate outgroup members publicly more than any other group, while those with chronically high esteem were expected to enhance ingroup ratings regardless of publicity of response.

Second, both personal and collective self-esteem were used as independent variables in order to examine their relative impact. No clear prediction could be made here. Third, ratings of ingroup and outgroup were to be examined separately in order to test the hypothesis outlined above. Finally, the variables from Hinkle and Brown's (1990) taxonomy were measured in order to examine their assertion that only collectivist/comparative individuals would show a significant correlation between self-esteem and intergroup discrimination.

Multivariate analysis of variance (MANOVA) was used to examine subjects' evaluations of both ingroup and outgroup members on 9-point Likert-type items (see Appendix 6). It

was predicted that threatened individuals low in either collective or personal self-esteem would be more likely than any other group to rate outgroup members unfavorably in public conditions. Those individuals high in esteem, however, were expected to enhance ratings of ingroup members compared to individuals low in esteem but show little or no outgroup derogation. However, the results obtained were quite different from these predictions.

Between-subjects effects. Analyses collapsing across the target of the evaluations (ingroup vs. outgroup) revealed several effects. First, there was a significant main effect of collective self-esteem, such that individuals low in this quality rated other subjects lower (M = 5.14) than did individuals high in collective esteem (M = 5.41), $F(1,259) = 16.11$, $p < .001$.

This main effect, however, was qualified by a significant two-way interaction between personal and collective self-esteem, $F(1,259) = 6.31$, $p < .02$ (see Table 1). Simple effects analyses indicated that the interaction was driven by subjects high in personal esteem but low in collective esteem, for these subjects rated others lower than either their counterparts high in collective esteem, $t(125) = 3.99$, $p<.001$, or their counterparts low in self-esteem, $t(146) = 2.43$, $p<.02$. No other means were significantly different (all t's < 1.65).

Another significant two-way between-subjects

Table 1

Means and Standard Deviations for Personal by Collective Esteem Interaction Effect on Ratings of Others

Personal Esteem	Collective Esteem: Low	Collective Esteem: High
Low	5.23_b (.63)	5.35_b (.55)
High	4.97_a (.58)	5.45_b (.72)

Note: Means in same rows or columns sharing common subscripts are not significantly different at $p < .05$, using pairwise t-tests.

Numbers in parentheses are standard deviations.

interaction was of publicity and personal esteem (see Table 2). Simple effects analyses indicated that for subjects low in personal esteem, ratings of other subjects were higher in private than in public, $t(154) = 2.85$, $p < .006$. For subjects high in personal esteem, however, no such difference emerged, $t < 1.0$. No other means were significantly different (all t's < 1.65).

Taken together, the results of the between-subjects analyses give some indication that personal and collective self-esteem may interact in influencing subjects' general evaluations of others. In addition, consistent with predictions, publicity was a relevant manipulation only for those low in personal esteem. However, the publicity manipulation did not interact with feedback as had been predicted.

The between-subjects effects are interesting but, as is indicated below, they are often qualified by higher-order interaction involving the target of the evaluation. The latter findings, since they measure differences between ingroup and outgroup ratings, are more relevant to the hypotheses outlined above.

Within-subject effects. Of more central interest are analyses involving the within-subjects effect of "target," or in other words, comparing evaluations made of in- versus outgroup members. A main effect of target did emerge, such that individuals overall rated ingroup members higher

Table 2

Means and Standard Deviations for Publicity by Personal Esteem Interaction Effect on Ratings of Others

Personal Esteem	Publicity	
	Public	Private
Low	5.14_{a} (.66)	5.41_{b} (.51)
High	5.28_{a} (.73)	5.25_{ab} (.68)

Note: Means in same rows or columns sharing common subscripts are not significantly different at $p < .05$, using pairwise t-tests.

Numbers in parentheses are standard deviations.

(M = 5.38) than outgroup members (M = 5.15), $F(1,259)=56.17$, $p < .001$. This replicates the minimal groups effect (Tajfel, 1970; Tajfel et al., 1971).

One two-way interaction emerged between target and collective self-esteem, $F(1,259)=4.50$, $p < .04$ (see Table 3). Simple effects analyses indicated that for subjects both high and low in collective esteem, own group ratings were higher than other group ratings, $t(135) = 4.43$, $p < .001$, and $t(147) = 5.93$, $p <.001$, respectively (see Table 3). In addition, subjects high in collective esteem rated both in- and outgroup higher than subjects low in collective esteem, $t(282) = 2.66$, $p < .009$, and $t(282) = 3.82$, $p < .001$, respectively (see Table 3).

This interaction offers little to support Crocker and Luhtanen's (1989) findings about the effects of collective self-esteem. Although these authors found that only individuals high in collective esteem showed ingroup favoritism, these results suggest that both individuals high and low in collective esteem show the bias. In fact, the difference between own-group and other-group ratings was actually larger among those low in collective esteem (difference = .28) than those high in collective esteem (difference = .17) (see Table 3).

Finally, a three-way interaction among target, collective-, and personal self-esteem emerged, $F(1,259) = 5.71$, $p < .02$ (see Table 4). Analysis of variance was used

Table 3

Means and Standard Deviations for Target by Collective Esteem Interaction Effect on Ratings of Others

Collective Esteem	Target: Own group	Target: Other group
Low	5.28_b (.65)	5.00_a (.72)
High	5.49_c (.68)	5.32_b (.70)

Note: Means in same rows or columns sharing common subscripts are not significantly different at $p < .05$, using pairwise t-tests.

Numbers in parentheses are standard deviations.

Table 4

Means and Standard Deviations for Target by Collective Esteem by Personal Esteem Interaction Effect on Ratings of Others

Target	Personal Esteem	Collective Esteem: Low	Collective Esteem: High
Own Group	Low	5.32_{b} (.64)	5.44_{c} (.57)
	High	5.20_{b} (.68)	5.53_{c} (.76)
Other Group	Low	5.13_{b} (.71)	5.25_{b} (.61)
	High	4.74_{a} (.67)	5.37_{b} (.75)

Note: Means in same rows or columns sharing common subscripts are not significantly different at $p < .05$, using ANOVA and pairwise t-tests.

Numbers in parentheses are standard deviations.

to examine subjects' evaluations of ingroup and outgroup members separately. Results indicated that, when rating ingroup members, there was a main effect of collective self-esteem, such that individuals low in collective esteem rated ingroup members lower (M = 5.26) than individuals high in collective esteem (M = 5.49), $F(1,280) = 6.97, p < .01$ (see Table 4). This provides evidence supportive of the findings of Crocker and Luhtanen (1989), in that individuals high in collective esteem did show an exacerbated ingroup enhancement effect.

In contrast to this main effect, when rating outgroup members, a significant two-way interaction between personal and collective self-esteem emerged, $F(1,280) = 9.25$, $p < .004$. Simple effects analyses revealed that, similar to the between-subjects interaction of personal and collective self-esteem, the mean containing subjects high in personal but low in collective self-esteem were again driving the effect.

These subjects gave lower ratings to the outgroup than did either their counterparts low in both personal and collective esteem, $t(146) = 3.25$, $p < .002$, or those high in both personal and collective self-esteem, $t(125) = 4.85$, $p < .001$ (see Table 4). No other mean differences were significant (all t's < 1.10).

The simple effects for these data were also analyzed by separating individuals low and high first in collective and

then in personal esteem. For individuals low in collective esteem, there was a significant two-way interaction of target and personal esteem, $F(1,146) = 7.35$, $p < .01$, whereas for those high in collective esteem, only the main effect for target emerged, $F(1,134) = 19.78$, $p < .001$. Similarly, for those low in personal esteem, only the main effect of target was significant, $F(1,155) = 24.75$, $p < .001$, whereas high self-esteem individuals showed a two-way interaction between target and collective esteem, $F(1,125) = 8.67$, $p < .005$.

All of these analyses suggest that the focal point of the overall three-way interaction may be the cells containing individuals high in personal esteem but low in collective esteem. The largest ingroup-outgroup difference, or measure of ingroup bias, was found among these subjects. It appears that they were the more likely than any other group of subjects to derogate outgroup members.

Generally, then, the analyses of the within-subjects effects indicate that although all subjects, regardless of condition, showed a general ingroup bias, some subjects (viz., those low in collective esteem but high in personal esteem) showed a stronger bias as a function of both personal and collective self-esteem. Unfortunately, the experimental manipulations of feedback and publicity had no effect on subjects' comparative ratings of in- and out-group members, although the analyses of the manipulation check

items indicated that the manipulations were, for the most part, attended to and understood.

Analyses Using Hinkle's Taxonomy

Mixed-design ANOVA's were also used to look for differences among individuals divided by Triandis' (1988) individualism/collectivism (IC) scale as well as by Hinkle's autonomous/relational (or noncomparative/comparative) orientations (AR) scale. For between-subjects effects, only a main effect of IC emerged, such that collectivist individuals rated others lower (M = 5.20) than did individualist subjects (M = 5.41), $F(1,223) = 5.08$, $p < .03$. No significant within-subjects effects emerged.

Hinkle et al. (1990) found that correlations between self-esteem and intergroup discrimination were significant only among collectivist individuals with a relational orientation. Therefore, using the present sample, a difference score was calculated by subtracting outgroup ratings from ingroup ratings. This difference score is an index of the amount of intergroup discrimination exhibited by each subject. For each of the four quadrants in Hinkle's taxonomy, correlations between difference score and both measures of personal and collective esteem were calculated.

The results are found in Table 5. None of the correlations was found to be significant. Most correlations with collective esteem were actually negative, and although the correlations with personal self-esteem were all

Table 5

Correlations Between Intergroup Discrimination and Measures of Personal and Collective Self-Esteem for Individuals Divided by Hinkle et al.'s (1990) Taxonomy

Quadrant		Correlation with Discrimination	p's
Collectivist/ Autonomous	Collective Esteem	-.11	.42
	Personal Esteem	.23	.10
Collectivist/ Relational	Collective Esteem	-.18	.19
	Personal Esteem	.10	.48
Individualist/ Autonomous	Collective Esteem	-.08	.56
	Personal Esteem	.04	.76
Individualist/ Relational	Collective Esteem	-.11	.40
	Personal Esteem	.16	.24

Note: No correlations were significant at the $p < .05$ level.

positive, all were relatively weak. The strongest correlation was actually in the cell containing collectivist individuals with an autonomous orientation, rather than those with collectivist and relational orientations. In the present experiment, then, no linear relationship between trait self-esteem and discrimination emerged.

In order to examine the data more closely for any indication of the relationships predicted by Hinkle et al. (1990), a regression analysis was conducted using IC and RA scales as well as self-esteem as predictors of intergroup differentiation. Results indicated that only the IC scale was a significant predictor (beta = -.16), $T(220) = -2.44$, $p < .03$. No other variables or interactions were significant (all t's < 1.2). Generally, then, although collectivist individuals did show greater discrimination than did individualists, this variable did not interact with autonomous/relational orientations as predicted by Hinkle et al. (1990).

Ancillary Analyses

Several other questions were asked at the end of the experimental session in order to get a better understanding of subjects' reactions to the experiment. All used a 9-point Likert-type scale with varying anchors depending on the specific question. A listing of the wording of each question may be found in Appendix 6.

Importance of social accuracy. First, subjects were asked how important a trait social accuracy is in general. Overall, subjects rated the trait as moderately important (M = 5.50 on a 1 to 9 Likert-type scale). No significant effects of any of the experimental manipulations were found, although one two-way interaction of personal self-esteem and publicity approached significance, $F(1, 200) = 3.00$, $p < .09$ (see Table 6).

A perusal of the means suggests that differences in self-esteem influenced ratings only when subjects had made public evaluations of others. Individuals low in self-esteem who made public responses saw social accuracy as less important than did their high self-esteem counterparts. This could indicate that the former individuals did not feel comfortable giving public evaluations and so experienced a generalized negative affect which they then directed at the Social Accuracy Test. Such conclusions are highly speculative, however.

When subjects were asked how important social accuracy was to them personally, no significant effects or interactions emerged. The overall mean was 5.66, indicating that on the average, subjects felt that social accuracy had moderate importance to them personally. Perhaps the failure of the feedback manipulation may be explained by this finding: if subjects felt overall that social accuracy is of only moderate personal importance, then failure in this

Table 6

Means and Standard Deviations for Publicity by Personal Esteem Interaction Effect on Rated Importance of Social Accuracy

Personal Esteem	Publicity	
	Public	Private
Low	5.24 (1.91)	5.53 (2.03)
High	5.75 (1.76)	5.54 (1.77)

Note: Numbers in parentheses are standard deviations.

domain would produce little threat to self-esteem.

It is somewhat surprising that no significant differences emerged as a function of feedback for either of these importance measures. One would predict based on social cognition research that, if given the opportunity, individuals given failure feedback might attempt to restore threatened self-esteem by derogating the test. There was some evidence for this tendency, although it was weak.

On the measure of general importance of social accuracy, there was a slight trend in this direction, in that individuals given personal or group failure (*M*'s = 5.25 and 5.43, respectively) rated the trait as somewhat less important than those given no feedback (*M* = 5.82), but the main effect only approached significance, $F(1,200) = 1.97$, $p < .15$.

On the measure of personal importance of social accuracy, a similar trend emerged, $F(1,200) = 2.15$, $p < .13$. Again, those given no feedback rated the test as more personally important (*M* = 6.00) than did those given group failure (*M* = 5.59) or personal failure feedback (*M* = 5.39).

These findings all suggest that despite indications from manipulation check questions that subjects understood and remembered the failure feedback they received, the experience may not have been highly threatening to them. A more powerful threat manipulation might well produce less equivocal results.

Importance of group membership. Subjects were asked how important it was to them to be an underestimator. The overall sample mean was 3.68, indicating that in general, subjects did not feel that membership in this group was very important. This finding may hold some explanation for why the predicted results did not obtain, and will be discussed further in the following chapter.

A significant main effect and several marginal main and interaction effects obtained for this measure. First, a significant main effect of personal self-esteem emerged, such that individuals low in esteem rated the group as more important (M = 3.95) than did their counterparts high in esteem (M = 3.38), $F(1,200) = 5.60$, $p < .02$. This gives some indication that for individuals whose personal self-esteem suffers, membership in groups is more important. Perhaps group membership allows individuals low in self-esteem to anticipate other means of self-enhancement aside from the direct, personal self-enhancement they find so difficult to use.

A second, albeit marginal, main effect was for publicity, $F(1,200) = 3.23$, $p < .08$, such that those in the public evaluation conditions found group membership more important (M = 3.90) than did those in the private conditions (M = 3.47). Perhaps individuals who responded publicly felt more committed to the evaluations they made and therefore concluded that the basis for the evaluation

division (i.e., group membership) was more important.

A marginal two-way interaction of publicity and feedback also emerged, $F(2,200) = 2.42$, $p < .09$ (see Table 7). An examination of the means suggests that when individuals received no feedback, they rated the group as more important if they had made public evaluations of others than if these evaluations were private (see Table 7). This would support the argument made above with respect to indirect enhancement. In the absence of clear, external information indicating that oneself or one's group has failed, publicly committing to evaluations that are biased toward the ingroup (as the evaluations were) may lead to the perception that membership in this group is more important. This, in turn, would strengthen any self-enhancing effects of engaging in ingroup enhancement.

In addition, failure experiences and subsequent public evaluations of others led individuals to rate group membership as less important than did those receiving no feedback, but if the evaluations of others were made privately, the opposite pattern emerged. Perhaps individuals who had made public ratings biased towards the ingroup felt a need to reduce the importance of this act of discrimination, in case they should be required to interact with the outgroup at some point in the future. When evaluations had been made privately, however, failure experiences resulted in a strengthening of ingroup ties.

Table 7

Means and Standard Deviations for Publicity by Feedback Interaction Effect on Rated Importance of Group Membership

	Publicity	
Feedback	Public	Private
Personal Failure	3.61 (1.60)	3.87 (1.99)
Group Failure	3.84 (1.79)	3.51 (1.68)
No Feedback	4.22 (1.73)	3.03 (1.85)

Note: Numbers in parentheses are standard deviations.

A final marginally significant three-way interaction of personal esteem, collective esteem, and publicity emerged, $F(1,200) = 2.96$, $p < .09$ (see Table 8). Although the interaction failed to reach statistical significance, the means suggest that, in general, individuals in public evaluation conditions tended to rate the importance of group membership higher than did those who had previously made private evaluations. However, individuals high in collective esteem but low in personal esteem tended to show the opposite pattern.

Generally, then, publicly committing oneself to biased evaluations seems to strengthen ingroup ties, or the perception of the group's importance. However, for individuals low in personal but high in collective self-esteem, making public evaluations seems to lower commitment to the group.

Summary of Results

In this experiment it was found that individual differences in both personal and collective self esteem influenced the evaluations subjects made of others as well as their perceptions of the importance of social accuracy and of their group membership. Although there was a main effect such that individuals low in collective esteem rated ingroup members lower than did their high collective esteem counterparts, this was qualified by a higher-order interaction described below.

Table 8

Means and Standard Deviations for Publicity by Collective Esteem by Personal Esteem Interaction Effect on Importance of Group Membership

Publicity	Collective Esteem	Personal Esteem: Low	Personal Esteem: High
Public	Low	4.62 (1.61)	3.22 (1.70)
	High	3.63 (1.28)	3.73 (1.86)
Private	Low	3.42 (1.56)	2.92 (1.50)
	High	4.04 (1.95)	3.33 (2.06)

Note: Numbers in parentheses are standard deviations.

Low personal self-esteem individuals also rated the importance of Social Accuracy low if they had made public evaluations and the importance of group membership high in general, although these findings fell short of statistical significance.

Perhaps of greatest interest were indications that personal and collective self-esteem may also interact to create a number of effects; in the present experiment, individuals high in personal self-esteem but low in collective esteem tended to derogate outgroup members more than others and tended to rate the importance of their group membership lower if they had made private evaluations.

Generally, the feedback manipulation was ineffective; the only marginal effect of this variable was that individuals receiving no feedback and publicly evaluating others tended to rate group membership as more important than any other condition. In addition, the taxonomy proposed by Hinkle et al. (1990) was not supported by the present findings.

DISCUSSION

Four main ideas were examined in this experiment. First, the study was designed to examine whether threats to esteem tend to produce increases in intergroup discrimination. Second, both personal and collective self-esteem were used as independent variables in order to examine the relative impact of each upon discrimination strategies.

Third, the study measured and analyzed independently evaluations made of the ingroup and the outgroup in order to determine whether certain types of individuals are more likely to derogate the outgroup, while others are more likely to enhance the ingroup. Finally, individualism/collectivism (Triandis et al., 1988) and relational/autonomous orientations (Hinkle et al., 1990) were measured in order to examine Hinkle et al.'s (1990) suggestion that collectivist individuals with relational orientations will show a greater correlation between intergroup discrimination and self-esteem. The implications of the findings for these four issues will be discussed in order.

The Effects of Threatening Esteem

In the present experiment, threats to esteem were created by providing some subjects with feedback indicating that either they or their group had failed a Social Accuracy Test. Although responses to manipulation check items

indicated that most subjects understood and remembered their low scores, and rated them as somewhat negative, this manipulation had very little effect. No differences in ratings of either own or other group emerged as a function of feedback. The one difference that did emerge, although it fell short of statistical significance, was that subjects who did not receive failure feedback and who made public evaluations of others tended to rate the importance of group membership higher than other subjects.

This may indicate that subjects who publicly commit to evaluations biased towards their own ingroup tend to enhance the importance of that group membership if given no feedback indicating either personal or group failure. Such public commitment may somehow strengthen individuals' identification with the ingroup as long as they are given no negative information to weaken it.

Notwithstanding this marginal effect, the overall lack of impact of the feedback manipulation runs contrary to prediction. If intergroup discrimination is indeed driven by esteem needs, then one would predict that a failure experience which temporarily lowers self-esteem should increase the ingroup bias. Such was not the case in the present investigation.

It could be argued that the feedback manipulation was not impactful, although subjects clearly remembered it. Arguing against this interpretation, however, is evidence

that subjects rated social accuracy as a trait of moderate general and personal importance. It is difficult to interpret such self-reports, however, since they may be subject to social desirability biases: subjects may have reported the traits to be moderately important out of a desire to be polite. It would have been desirable to also measure how upset subjects reported themselves to be after receiving the feedback, but no such measure was included in the experiment.

In addition, the marginal significance of the difference between the negativity rating and the midpoint of the scale indicates that although subjects were clearly told that their score was significantly below average, they did not perceive the feedback as highly negative. Although disappointing, this is not terribly surprising in light of extensive social cognition research suggesting that one mechanism allowing individuals to cope with negative feedback is to remember it as less negative than it actually was (see Fiske & Taylor, 1986, for a review).

It is surprising, however, that this manipulation proved effective in the study conducted by Baumgardner et al. (1992) but not in the present investigation. One crucial difference in the manipulations employed by researchers was the use of self-scoring by Baumgardner et al. (1992). In their study, subjects were observed through a one-way mirror while answering the Social Accuracy

questions so that a bogus key could be made. Subjects were then allowed to score the tests themselves. In the present experiment, however, subjects were given only a score by the computer. Perhaps the manipulation was either less believable or less impactful because of this difference.

Another explanation for the lack of effect of feedback could be that individuals who did not receive feedback also experienced a temporary lowering of self-esteem along with those who received failure feedback. Perhaps it was stressful to take a test purporting to measure an important social ability and then to receive no feedback about one's performance. If this were so, the feedback manipulation would be expected to produce only very weak effects.

In order to preclude this possibility, a control condition giving positive feedback might have also been included. In addition, the esteem of those receiving failure versus no feedback could have been measured subsequent to the feedback manipulation.

Another possibility is that subjects receiving no feedback perceived the test as a very difficult one and felt that they had probably failed the test even though they were given no direct feedback. In order to test this idea, twenty one additional subjects were run in a no wedback condition. After completing the Personal Information Forms but before reading the photocopied forms supposedly completed by the others, these subjects were asked several

questions about their perceptions of the Social Accuracy Test.

First, subjects were asked how many questions out of 14 they thought they had answered correctly. The mean was 7.24 (SD = 1.14), indicating that subjects felt they had performed at about an average level. They also reported that the test questions were of moderate difficulty (M = 4.38, SD = .92, on a 7-point Likert-type scale), that they performed at an average level overall (M = 3.95, SD = .92, on a 7 point Likert-type scale), and that they felt neither satisfied nor dissatisfied with their performance (M = 4.14, SD = 1.11, on a 7 point Likert-type scale). Generally, then, in the absence of clear feedback, subjects felt that they had performed at an average level on a test of medium difficulty. It does not appear likely that the no feedback subjects felt they had failed the test and that their self-esteem was lowered by this belief.

Esteem Differences and the Locus of the Ingroup Bias

The second and third issues are whether evaluation differences exist as a function of esteem and whether personal or collective esteem is more important in an intergroup situation. These issues turned out to be highly related to each other and so will be discussed together.

Generally, the results suggest that collective and personal self-esteem are both relevant in an intergroup situation, although they appear to influence individuals

differently. In addition, these two variables were found to interact in many important ways. Their effects will therefore first be described separately and then the interactions will be discussed.

Effects of collective esteem. Collective esteem, when taken alone, appears to influence subjects' evaluations of the ingroup. Individuals low in collective esteem rated ingroup members lower than individuals high in collective esteem. No differences in ratings of outgroup members solely as a function of collective esteem emerged. This finding clarifies the work of Crocker and Luhtanen (1988), in that individuals low in collective esteem do show differences in evaluations of others, but not in terms of influencing ingroup bias per se. Instead, the present findings suggest that the locus of the difference between the two groups may be in terms of ingroup enhancement as opposed to outgroup derogation.

Effects of personal self-esteem. Personal self-esteem, however, had different effects on individuals in the present experiment than did collective esteem. Generally, individuals low in personal esteem tended to rate both ingroup and outgroup members lower when making public ratings than when doing so privately. In addition, they tended to rate the importance of Social Accuracy lower in public than in private. No two-way interactions of target and personal self-esteem emerged, however, indicating that

perhaps personal self-esteem taken alone does not so much influence intergroup perceptions as it does interpersonal ones.

Somewhat similar to the findings of Baumgardner et al. (1989), then, individuals low in esteem seemed to engage in public derogation of both other people and of aspects of the experimental settings when such an opportunity was made available. However, it is puzzling that no interaction with feedback was uncovered, in that subjects who have undergone a failure experience should be in greater need of public self-enhancement. If the suggestion made in the previous section concerning the esteem-lowering effects of receiving no feedback is correct, this might explain why no interaction was uncovered. If all subjects experienced a temporary downward shift in self-esteem, then they would all be in need of esteem-enhancement and the findings would support those of Baumgardner et al., (1989).

Taken alone, then, these findings would seem to support Crocker and Luhtanen's (1988) suggestion that collective and not personal self-esteem is more relevant in an intergroup situation. However, this assertion will prove to be not wholly true when interactions between personal and collective self-esteem are discussed below.

Interaction between personal and collective self-esteem. The above interpretations must be somewhat qualified by the presence of interactions between personal and collective self-esteem. In particular, subjects with high personal esteem but low collective esteem seemed to respond uniquely to the present intergroup situation. These individuals rated outgroup members lower than any other group, showed the strongest ingroup-outgroup bias, and also tended to rate the importance of group membership lower than others when their evaluations had been made privately.

It appears that these individuals were attempting to engage in two different types of enhancement strategies. They derogated the outgroup but also rated their group membership as less important as long as they had not publicly committed themselves to their biased evaluations.

Regarding the former effect, perhaps these individuals, because they possessed high personal self-esteem, found it easier to make comparisons that favored their own group than did their low personal esteem counterparts. They also were in need of esteem enhancement because of their low collective esteem, and were therefore highly likely to show ingroup bias. This finding, then, suggests that Crocker and Luhtanen's (1988) contention that individuals low in collective esteem are not likely to show ingroup bias may be correct only regarding ingroup enhancement. In terms of outgroup derogation, subjects low in collective esteem may

actually be more likely to show ingroup bias if they also possess high personal self-esteem.

These subjects also showed a tendency to decrease perceived importance of group membership if they had not publicly committed to biased evaluations. Since these individuals already possess high personal esteem, one way to attenuate low collective esteem might be to devalue the importance of group membership. These subjects, high in personal but low in collective esteem, then, might be seen as individualistic loners who concern themselves more with individual achievement and devalue the importance of their group memberships.

It is somewhat surprising that the findings of Crocker and Luhtanen (1990) did not replicate. It could be argued that there exist differences in overall levels of esteem between Crocker & Luhtanen's (1990) sample and the present one. Although the former do not give the mean or median values for the Rosenberg (1965) personal self-esteem scores they obtained, they report that the median score per item on the collective measure was 5.71. Since the median in the present sample was 5.41, there appear to be no real differences in overall levels of collective esteem between the two samples.

Hinkle's Taxonomy

According to predictions by Hinkle et al. (1990), levels of ingroup bias among collectivist individuals with a

relational orientation should be more highly related to self-esteem than among those in the three other quadrants of the taxonomy. In the present sample, however, no clearcut relationship between self-esteem and discrimination emerged. In fact, the only significant relationship found using the variables from Hinkle's taxonomy was that individuals high in collectivism rated others lower than those high in individualism, regardless of whether the target was an ingroup or outgroup member.

Perhaps the pattern predicted by Hinkle et al. (1990) did not emerge because, as the rest of the findings suggest, the relationship between self-esteem and ratings of others does exist but is complex. Often levels of personal and collective esteem interact to impact upon either ratings of ingroup members, outgroup members, or both. Since these relationships have shown to be very complicated, it is not surprising that no linear relationship between esteem and discrimination was uncovered in these analyses.

Limitations and Suggestions for Future Research

The greatest limitation of the present research was the failure of the feedback manipulation to show any effect. As discussed above, however, it is unclear whether the intended temporary threats to esteem were produced for the failure conditions but not for the control condition. Because of this, it would be desirable to conduct another study in which positive feedback is also given as a control for the

negative feedback, in addition to the no feedback condition. It would also be helpful to measure self-affect or some other form of temporary esteem subsequent to the feedback manipulation. Finally, a trait of more importance might be used in creating feedback in order to make the manipulation more impactful, or perhaps a self-scoring technique such as that used by Baumgardner et al. (1992) would strengthen the effectiveness of feedback on the Social Accuracy test.

An additional experiment, in which temporary self-affect is measured subsequent to all manipulations, might also be conducted. In order to definitely determine whether esteem differences in ratings of others can be explained by affect-regulation processes, it would helpful to be able to compare affect differences among threatened individuals who are allowed to engage in intergroup comparisons versus those who are not and versus those whose esteem has not been threatened.

It may be that present findings will not generalize to real-world effects. Real social groups have existing histories, status differences, and other social factors that may strongly influence discrimination patterns. Therefore, it would be useful to look for the locus of discrimination among real social groups as well as among underestimators versus overestimators. This is especially true since individuals in the present study did not rate the importance of their group membership as very high.

As was mentioned in the introduction, there are theorists who would argue that so-called "minimal groups" effects do not examine true intergroup processes at all, since the groups have no real social history. Because of this, it may be that the findings would not generalize to real groups. Although I would argue that it is important to develop a better understanding of these processes at a very basic and minimal level, I acknowledge that a thorough comprehension of intergroup processes cannot be obtained without some effort to examine the role of social context and real-world history upon them. Certainly even some laboratory research such as that of Sachdev and Bourhis (1985) suggests that such contextual elements may have a large effect upon discrimination.

General Conclusions

However, the results of the present experiment give some preliminary evidence that there do exist relationships between self-esteem and evaluations of others. Although collective esteem seems to influence ratings of ingroup members, personal self-esteem appears to influence ratings of others in general, and may create a sensitivity to differences in the publicity of the evaluations. Taken separately, then, collective esteem may be more relevant in an intergroup situation, just as personal self-esteem may be more important in an interpersonal situation. It is important to note, however, that the findings were not

always strong or consistent, so these conclusions are tentative and in need of further examination.

It is interesting to note that the two types of esteem can interact, however, and their joint influence may impact more on ratings of outgroup members than will either construct alone. In particular, individuals high in personal esteem but low in collective esteem may be particularly likely to derogate outgroup members. Although these individuals show some tendency to devalue group membership, seeing themselves as capable loners, they still use derogation of outgroup members, possibly in an attempt to regulate their low collective esteem. As mentioned above, several directions for future research are implied by these findings.

LIST OF REFERENCES

Abrams, D., & Hogg, M. A. (1988). Comments on the motivational status of self-esteem in social identity and intergroup discrimination. European Journal of Social Psychology, 18, 317-334.

Allen, V. L., & Wilder, D. A. (1979). Group categorization and attribution of belief similarity. Small Group Behavior, 10, 73-80.

Altemeyer, B. (1988). Enemies of freedom: Understanding right-wing authoritarianism. San Francisco: Jossey-Bass.

Bass, B. M., & Dunteman, G. (1963). Biases in the evaluation of one's own group, its allies, and its opponents. Conflict Resolution, 7, 16-20.

Baumgardner, A. H., Heppner, P. P., & Arkin, R. M. (1986). Role of causal attribution in personal problem solving. Journal of Personality and Social Psychology, 50, 636-643.

Baumgardner, A. H., Kaufman, C. M., & Ervin, K. (1992). Self-handicapping and expectancy-regulation. Manuscript in preparation, Michigan State University.

Baumgardner, A. H., Kaufman, C. M., & Levy, P. E. (1989). Regulating affect interpersonally: When low esteem leads to greater enhancement. Journal of Personality and Social Psychology, 56, 907-921.

Billig, M., & Tajfel, H. (1973). Social categorization and similarity in intergroup behaviour. European Journal of Social Psychology, 3, 27-52.

Bornstein, G., Crum, L., Wittenbraker, J., Harring, K., Insko, C., & Thibaut, J. (1983a). On the measurement of social motivation in the minimal group paradigm. European Journal of Social Psychology, 13, 321-350.

Bornstein, G., Crum, L., Wittenbraker, J. Harring, K., Insko, C., & Thibaut, J. (1983b). A reply to Turner's comments. European Journal of Social Psychology, 13, 369-382.

Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. Psychological Bulletin, 86, 307-324.

Brewer, M. B. (1991). The social self: On being the same and different at the same time. Personality and Social Psychology Bulletin, 17, 475-482.

Brewer, M. B., & Silver, M. (1978). Ingroup bias as a function of task characteristics. European Journal of Social Psychology, 8, 393-400.

Brown, J. D. (1990). Evaluating one's abilities: Shortcuts and stumbling blocks on the road to self-knowledge. Journal of Experimental Social Psychology, 26, 149-167.

Brown, J. D., Collins, R. L., & Schmidt, G. W. (1988). Self-esteem and direct versus indirect forms of self-enhancement. Journal of Personality and Social Psychology, 55, 445-453.

Brown, R., Condor, S., Mathews, A., Wade, G., & Williams, J. (1986). Explaining intergroup differentiation in an industrial organization. Journal of Occupational Psychology, 59, 273-286.

Cialdini, R. B., Borden, R. J., Thorne, A., Walker, M. R., Freeman, S., & Sloane, L. R. (1976). Basking in reflected glory: Three football field studies. Journal of Personality and Social Psychology, 34, 366-375.

Cialdini, R.B., & Richardson, K. D. (1980). Two indirect tactics of image management: Basking and Blasting. Journal of Personality and Social Psychology, 39, 406-415.

Crocker, J., & Luhtanen, R. (1990). Collective self-esteem and ingroup bias. Journal of Personality and Social Psychology, 58, 60-67.

Crocker, J., & Major, B. (1989). Social stigma and self-esteem: The self-protective properties of stigma. Psychological Review, 96, 608-630.

Crocker, J., & Schwartz, I. (1985). Prejudice and ingroup favoritism in a minimal intergroup situation: Effects of self-esteem. Personality and Social Psychology Bulletin, 11, 379-386.

Crocker, J., Thompson, L. L., McGraw, K. M., & Ingerman, C. (1987). Journal of Personality and Social Psychology, 52, 907-916.

Dion, K. L., & Earn, B. M. (1975). The phenomenology of being a target of prejudice. Journal of Personality and Social Psychology, 32, 944-950.

Doise, W. (1978). Groups and individuals: Explanations in social psychology. Cambridge: Cambridge University Press.

Doise, W., Csepeli, G., Dann, H. D., Gouge, C., Larsen, K., Ostell, A. (1973). An experimental investigation into the formation of intergroup representations. European Journal of Social Psychology, 3, 145-157.

Doise, W., & Sinclair, A. The categorization process in intergroup relations. European Journal of Social Psychology, 3, 145-157.

Ferguson, C. K., & Kelley, H. H. (1964). Significant factors in overevaluation of own-group's product. Journal of Abnormal and Social Psychology, 69, 223-228.

Festinger, L. (1954). A theory of social comparison processes. Human Relations, 7, 117-120.

Gaertner, S. L., Mann, J. A., Dovidio, J. F., Murrell, A. J., & Pomare, M. (1990). How does cooperation reduce intergroup bias? Journal of Personality and Social Psychology, 59, 692-704.

Garza, R. T., & Santos, S. J. (1991). Ingroup/outgroup balance and interdependent interethnic behavior. Journal of Experimental Social Psychology, 27, 124-137.

Heider, F. (1958). The psychology of interpersonal relations. New York: Wiley.

Hensley, V., & Duval, S. (1976). Some perceptual determinants of perceived similarity, liking, and correctness. Journal of Personality and Social Psychology, 34, 159-168.

Hinkle, S., & Brown, R. (1990). Intergroup comparisons and social identity: Some links and lacunae. In D. Abrams & M. A. Hogg (Eds.), Social identity theory: Constructive and critical advances. Hemel Hampstead: Wheatsheaf.

Hinkle, S., Brown, R., & Ely, P. G. (1990). Individualism/collectivism, group ideology, and intergroup process.

Hogg, M. A., & Sunderland, J. (1991). Self-esteem and intergroup discrimination in the minimal group paradigm. British Journal of Social Psychology, 30, 51-62.

Hogg, M. A., & Turner, J. C. (1987). Intergroup behaviour, self-stereotyping and the salience of social categories. British Journal of Social Psychology, 26, 325-340.

Ickes, W., & Layden, M. A. (1978). Attributional styles. In W. Ickes & R. Kidd (Eds.), New direction in attributions research. Hillsdale: Erlbaum.

Insko, C. A., Schopler, J., Hoyle, R. H., Dardis, G. J., and Graetz, K. A. (1990). Individual-group discontinuity as a function of fear and greed. Journal of Personality and Social Psychology, 58, 68-79.

Janssens, L., & Nuttin, J. R. (1976). Frequency perception of individual and group success as a function of competition, coaction, and isolation. Journal of Personality and Social Psychology, 34, 830-836.

Kahn, A., & Ryen, A. H. (1972). Factors influencing the bias toward one's own group. International Journal of Group Tensions, 2, 33-50.

Lemyre, L., & Smith, P. M. (1985). Intergroup discrimination and self-esteem in the minimal group paradigm. Journal of Personality and Social Psychology, 49, 660-670.

Locksley, A., Ortiz, V., & Hepburn, C. (1980). Social categorization and discriminatory behavior: Extinguishing the minimal intergroup discrimination effect. Journal of Personality and Social Psychology, 39, 773-783.

Luhtanen, R., & Crocker, J. (1991). Self-esteem and intergroup comparisons: Toward a theory of collective self-esteem. In J. Suls & T. A. Wills (Eds.), Social comparison: Contemporary theory and research. Hillsdale: Erlbaum.

McClintock, C. G. (1972). Social motivation: A set of propositions. Behavioral Science, 17, 438-454.

McGrath, J. E. (1981). Groups: Interaction and performance. Englewood Cliffs: Prentice-Hall.

Meindl, J. R., & Lerner, M. J. (1984). Exacerbation of extreme responses to an out-group. Journal of Personality and Social Psychology, 47, 71-84.

Messe', L. A., Hymes, R. W., & MacCoun, R. J. (1984). Group categorization and distributive justice decisions. Need full reference here!

Messick, D. M., & Mackie, D. M. (1989). Intergroup relations. Annual Review of Psychology, 40, 45-81.

Mummedey, A., & Schreiber, H. J. (1983). Better or just different? Positive social identity by discrimination against or by differentiation from outgroups. European Journal of Social Psychology, 13, 389-397.

Nelson, R.E., & Craighead, W.E. (1977). Selective recall of positive and negative feedback, self-control behaviors, and depression. Journal of Abnormal Psychology, 86, 379-388.

Ng, S. H. (1981). Equity theory and the allocation of rewards between groups. European Journal of Social Psychology, 11, 439-443.

Ng, S. H. (1984). Equity and social categorization effects on intergroup allocation of rewards. British Journal of Social Psychology, 23, 165-172.

Noel, J. G., Wann, D. L., & Branscombe, N. R. (1992). Effects of insecure social identity on derogation of an outgroup. Paper presented at the 64th Meeting of the Midwestern Psychological Association, Chicago.

Oakes, P. J. T., & Turner, J. C. (1980). Social categorization and intergroup behavior: Does minimal intergroup discrimination make social identity more positive? European Journal of Social Psychology, 10, 295-301.

Platow, M. J., McClintock, C. G., & Liebrand, W. B. G. (1990). Predicting intergroup fairness and ingroup bias in the minimal group paradigm. European Journal of Social Psychology, 20, 221-239.

Rabbie, J. M., & Horwitz, M. (1969). Arousal of ingroup-outgroup bias by a chance win or loss. Journal of Personality and Social Psychology, 13, 269-277.

Rabbie, J. M., Benoist, F., Oosterbaan, H., & Visser, L. (1974). Differential power and effects of expected competitive and cooperative intergroup interaction on intragroup and outgroup attitudes. Journal of Personality and Social Psychology, 30, 46-56.

Rabbie, J. M., Schot, J. C., & Visser, L. (1989). Social identity theory: A conceptual and empirical critique from the perspective of a behavioural interaction model. European Journal of Social Psychology, 19, 171-202.

Rabbie, J. M., & Wilkens, G. (1969). Intergroup competition and its effect on intragroup and intergroup relations. European Journal of Social Psychology, 2, 215-234.

Ryen, A. H., & Kahn, A. (1975). Effects of intergroup orientation on group attitudes and proxemic behavior. Journal of Personality and Social Psychology, 31, 302-310.

Sachdev, I., & Bourhis, R. Y. (1985). Social categorization and power differentials in group relations. European Journal of Social Psychology, 15, 415-434.

Sachdev, I., & Bourhis, R. Y. (1991). Power and status differentials in minority and majority group relations. European Journal of Social Psychology, 21, 1-24.

Schaller, M. (1991). Social categorization and the formation of group stereotypes: Further evidence for biased information processing in the perception of group-behavior correlations. European Journal of Social Psychology, 21, 25-35.

St. Claire, L., & Turner, J. C. (1982). The role of demand characteristics in the social categorization paradigm. European Journal of Social Psychology, 12, 307-314.

Staub, E. (1989). The psychology of torture and torturers. Journal of Social Issues.

Stephenson, G. M., Skinner, M., & Brotherton, C. J. (1976). Group participation and intergroup relations: An experimental study of negotiation groups. European Journal of Social Psychology, 6, 51-70.

Tajfel, H. (1970). Experiments in intergroup discrimination. Scientific American, 223, 96-102.

Tajfel, H., Billig, M. G., Bundy, R. F., & Flament, C. (1971). Social categorization and intergroup behaviour. European Journal of Social Psychology, 1, 149-177.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), The Social Psychology of Intergroup Relations. Monterey: Brooks/Cole.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. Austin (Eds.), Psychology of Intergroup Relations. Chicago: Nelson-Hall.

Taylor, D. M., & Moghaddam, F. H. (1987). Theories of intergroup relations: International social psychological perspectives. New York: Praeger.

Taylor, S. E. (1981). A categorization approach to stereotyping. In D. L. Hamilton (Ed.), Cognitive processes in stereotyping and intergroup behavior. Hillsdale: Erlbaum.

Taylor, S.E., & Brown, J.D. (1988). Illusion and well-being: A social psychological perspective on mental health. Psychological Bulletin, 103, 193-210.

Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relations. Journal of Personality and Social Psychology, 54, 323-338.

Turner, J. C. (1975). Social comparison and social identity: Some prospects for intergroup behavior. European Journal of Social Psychology, 5, 5-34.

Turner, J. C. (1983a). Some comments on the measurement of social orientations in the minimal group paradigm. European Journal of Social Psychology, 13, 351-367.

Turner, J. C. (1983b). A second reply to Bornstein, Crum, Wittenbraker, Harring, Insko, and Thibaut on the measurement of social orientations. European Journal of Social Psychology, 13, 383-388.

Turner, J. C. (1985). Social categorization and the self-concept: A social cognitive theory of group behavior. Advances in Group Processes, 2, 77-121.

Turner, J. C. (1990). Social comparison and social identity: Some prospects for intergroup behavior. European Journal of Social Psychology, 5, 5-34.

Turner, J. C., & Oakes, P. J. (1986). The significance of the social identity concept for social psychology with reference to individualism, interactionism and social influence. British Journal of Social Psychology, 25, 237-252.

Vanbeselaere, N. (1987). The effects of dichotomous and crossed social categorizations upon intergroup discrimination. European Journal of Social Psychology, 17, 143-156.

Wilder, D. A. (1978). Reduction of intergroup discrimination through individuation of the outgroup. Journal of Personality and Social Psychology, 36, 1361-1374.

Wilder, D. A. (1986). Social categorization: Implications for creation and reduction of intergroup bias. Advances in Experimental Social Psychology, 19, 291-353.

Wilder, D. A. (1990). Some determinants of the persuasive power of in-groups and out-groups: Organization of information and attribution of independence. Journal of Personality and Social Psychology, 59, 1202-1213.

Wilder, D. A., & Shapiro, P. (1991). Facilitation of outgroup stereotypes by enhanced ingroup identity. Journal of Experimental Social Psychology, 27, 431-452.

Wills, T. A. (1981). Downward comparison principles in social psychology. Psychological Bulletin, 90, 245-271.

Wilson, W., Chun, N., & Kayatani, M. (1965). Projection, attraction, and strategy choices in intergroup competition. Journal of Personality and Social Psychology, 2, 432-435.

Worchel, S., & Andreoli, V. A., & Folger, R. (1977). Intergroup cooperation and intergroup attraction: The effect of pervious interaction and outcome of combined effort. Journal of Experimental and Social Psychology, 13, 131-140.

Worchel, S., Lind, E. A., & Kaufman, K. H. (1975). Evaluations of group products as a function of expectations of group longevity, outcome of competition, and publicity of evaluations. Journal of Personality and Social Psychology, 31, 1089-1097.

Zander, A., & Armstrong, W. (1972). Working for group pride in a slipper factory. Journal of Applied Social Psychology, 2, 293-307.

APPENDICES

APPENDIX 1

Modified Rosenberg (1965) Self-Esteem Inventory

1. I feel that I'm a person of worth, at least on an equal basis with others.

1	2	3	4	5
strongly agree				strongly disagree

2. I feel that I have a number of good qualities.

1	2	3	4	5
strongly agree				strongly disagree

3. All in all, I am inclined to feel that I am a failure.

1	2	3	4	5
strongly agree				strongly disagree

4. I am able to do things as well as most people.

1	2	3	4	5
strongly agree				strongly disagree

5. I feel I do not have much to be proud of.

1	2	3	4	5
strongly agree				strongly disagree

6. I take a positive attitude towards myself.

1	2	3	4	5
strongly agree				strongly disagree

7. On the whole, I am satisfied with myself.

1	2	3	4	5
strongly agree				strongly disagree

8. I wish I could have more respect for myself.

1	2	3	4	5
strongly agree				strongly disagree

9. I certainly feel useless at times.

1	2	3	4	5
strongly agree				strongly disagree

10. At times I think I am no good at all.

1	2	3	4	5
strongly agree				strongly disagree

APPENDIX 2

Collective Self-Esteem Measure
(Used with permission of J. Crocker)

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

1---------2---------3--------4-------5-------6-------7
Strongly Disagree Disagree Neutral Agree Agree Strongly
disagree somewhat somewhat agree

____1. I am a worthy member of the social groups I belong to.

____2. I often regret that I belong to some of the social groups I do.

____3. Overall, my social groups are considered good by others.

____4. Overall, my group memberships have very little to do with how I feel about myself.

____5. I feel I don't have much to offer the social groups I belong to.

____6. In general, I'm glad to be a member of the social groups I belong to.

____7. Most people consider my social groups, on the average, to be more ineffective than other social groups.

____8. The social groups I belong to are an important reflection of who I am.

____9. I am a cooperative participant in the social groups I belong to.

____10. Overall, I often feel that the social groups of which I am a member are not worthwhile.

____11. In general, others respect the social groups that I am a member of.

____12. The social groups I belong to are unimportant to my sense of what kind of a person I am.

____13. I often feel I'm a useless member of my social groups.

____14. I feel good about the social groups I belong to.

____15. In general, others think that the social groups I am a member of are unworthy.

____16. In general, belonging to social groups is an important part of my self-image.

APPENDIX 3

Individualism/Collectivism Scale

1. If the group is slowing me down, it is better to leave it and work alone.

2. To be superior a person must stand alone.

3. Winning is everything.

4. Only those who depend on themselves get ahead in life.

5. If you want something done right, you've got to do it yourself.

6. What happens to me is my own doing.

7. I feel winning is important in both work and games.

8. Success is the most important thing in life.

9. It annoys me when other people perform better than I do.

10. Doing your best isn't enough; it is important to win.

11. In most cases, to cooperate with someone whose ability is greater than oneself is not as desirable as doing the thing alone.

12. In the long run the only person you can count on is yourself.

13. It is foolish to try to preserve resources for future generations.

14. People should not be expected to do anything for the community unless they are paid for it.

15. Even if a child won the Nobel Prize the parents should not be honored in any way.

16. I would not let my parents borrow my car (if I had one), no matter whether they are good drivers or not.

17. I would help within my means if a relative told me he/she was in financial difficulty.

18. I like to live close to my friends.

19. The motto "sharing is both blessing and calamity" applies even if one's friend is clumsy, dumb, and causing a lot of trouble.

20. When my colleagues tell me personal things about themselves we are drawn closer together.

21. I would not share my ideas and newly acquired knowledge with my parents.

22. Children should not feel honored even if their parent were given an award for service to the community.

23. I am not to blame if one of my family members fails.

24. My happiness is unrelated to the well-being of my fellow students.

25. My parents' opinions are not important in my choice of a spouse.

26. I am not to blame when one of my close friends fails.

27. My coworkers' opinions are not important in my choice of a spouse.

28. When a close friend of mine is successful, it does not really make me look better.

29. One need not worry about what the neighbors say about whom one should marry.

APPENDIX 4

Personal Information Form

Your Group Membership (circle one): Group 1 (underestimators)

Group 2 (overestimators)

Your subject # (NOT Student number) _____

What year are you in school? _____

When do you expect to graduate? _____

Where are you from originally? _____

How many brothers and sisters do you have? _____ brothers

_____sisters

What is your favorite color? _____

What are your favorite leisure time activities?

_____

_____

What is your first childhood memory?_____

_____

_____

PLEASE SLIDE THIS FORM OUT ON THE FLOOR UNDER YOUR CURTAIN. WHEN EVERYONE HAS FINISHED, THE EXPERIMENTER WILL MAKE PHOTOCOPIES OF ALL FORMS. YOU WILL BE ALLOWED TO READ ALL OTHER SUBJECTS' RESPONSES AND THEY WILL BE ALLOWED TO READ YOURS. AFTER, WE WILL ASK YOU TO MAKE SOME JUDGMENTS ABOUT THE OTHERS BASED ON THE INFORMATION YOU HAVE FROM THESE FORMS. PLEASE WAIT QUIETLY UNTIL THE EXPERIMENTER RETURNS WITH THE PHOTOCOPIED FORMS.

APPENDIX 5

Subject Evaluation Sheet

Directions: Please take a moment to think about your impressions of the members of (your/the other) group. Then take a moment to answer these questions by circling the number that is closest to how you feel.

1. On the average, how likable do you think the other members of (your/the other) group are?

1	2	3	4	5	6	7
not at all						very much

2. On the average, how friendly do you think the other members of (your/the other) group are?

1	2	3	4	5	6	7
very negative						very positive

3. On the average, how much do you like the other members of (your/the other) group?

1	2	3	4	5	6	7
not at all						very much

4. On the average, how smart do you think the other people in (your/the other) group are?

1	2	3	4	5	6	7
not at all smart						very smart

5. On the average, how popular do you think the other people in (your/the other) group are?

1	2	3	4	5	6	7
not at all popular						very popular

6. How much would you like to see the other people in (your/the other) group again?

1	2	3	4	5	6	7
not at all						very much

7. On the average, how successful would you guess the other people in (your/the other) group are going to be in life?

1	2	3	4	5	6	7
not at all successful						very successful

8. On the average, how honest do you think the other people in (your/the other) group are?

1	2	3	4	5	6	7
not at all honest						very honest

9. On the average, how attractive do you think the other people in (your/the other) group are?

1	2	3	4	5	6	7
not at all attractive						very attractive

APPENDIX 6

Autonomous/Relational and Manipulation Check Questionnaire
(Administered by computer)

Autonomous/Relational Orientation Questions

1. To what degree were you concerned about how your group might compare to other groups?

2. To what degree were you concerned about your group's success or failure?

3. To what degree were you experiencing feelings of competitiveness between your group and other groups?

4. To what degree were you concerned about the adequacy of your group's work relative to the work of other groups?

5. To what degree were you thinking about whether your group's performance would be superior or inferior to that of other groups?

6. To what degree were you thinking about how well your group was doing relative to other groups?

Manipulation check items:

1. Did you take a Social Accuracy test today? Yes No

2. Did you receive feedback about your own personal performance on the Social Accuracy test? Yes No

3. Did you receive feedback about your group's performance on the Social Accuracy test? Yes No

4. Did you get a personal score on your Social Accuracy test?

Yes No

5. Did you get a group score on your Social Accuracy test?

Yes No

6. What score did you or your group receive on the Social Accuracy test? (Enter a 99 if you did not receive a score.)

7. How positive versus negative was the feedback on the Social Accuracy test?

1	2	3	4	5	6	7	8	9
very negative								very positive

8. How important a trait is social accuracy in general?

1	2	3	4	5	6	7	8	9
not important								very important

9. How important a trait is social accuracy to you?

1	2	3	4	5	6	7	8	9
not important								very important

10. How important was it to you to be placed in the group you were (meaning, overestimators or underestimators)?

1	2	3	4	5	6	7	8	9
not important								very important

11. How private do you feel the evaluations are that you made of the other subjects?

1	2	3	4	5	6	7	8	9
not private								very private

12. How anonymous do you feel the evaluations are that you made or the other subjects?

1	2	3	4	5	6	7	8	9
not anonymous								very anonymous

APPENDIX 7

Experimental Protocol--Dissertation

ENTER CORRECT CONDITION INFORMATION INTO COMPUTERS BASED ON THE CONDITION ASSIGNMENT SHEET FOUND IN THE LOG BOOK. MAKE SURE THAN EACH BOOTH HAS THE CONSENT FORM AND SUBJECTS EVALUATION SHEETS AS WELL AS A PENCIL.

GREET SUBJECTS INDIVIDUALLY, SHOW THEM IN, AND TELL THEM TO FOLLOW THE INSTRUCTIONS ON THE COMPUTER SCREENS. PRETEND TO GREET AND SEAT ADDITIONAL SUBJECTS AS NECESSARY.

The computer will present the following instructions.

"Today we are interested in having you complete three different types of tasks. We will describe each task as we come to it."

"For the first task, we are interested in the study of visual judgments. We are going to show you a series of varying numbers of dots printed on the computer screen. We would like you to estimate the number of dots on each screen using the computer keyboard to indicate your answers."

Computer will run, record, and ostensibly score estimations. A screen will be presented placing subjects in either the "underestimator" or "overestimator" category.

"Some people consistently overestimate the number of dots and some consistently underestimate the number. These tendencies are not related to accuracy, but they do generally present a consistent pattern that we are interested in examining. Thank you for your judgments. Now, we would like to move on to other types of judgments we are also interested in. Since the computer has already divided you into two groups, underestimators and overestimators, we are going to let you remain in these groups in order to more easily code your responses to the remaining two tasks."

"For the second task, we are interested in examining a psychological variable known as social accuracy. Social accuracy is an ability to make accurate, sensitive judgments about other people's personalities and motivations. The test that you will be taking is designed to measure this ability. This test has been shown to be very reliable and valid in previous research. That means that if taken several times, students receive similar scores, and that the test does indeed measure what it is intended to."

"The Social Accuracy Test requires that you read a case history of a person who is in a stressful period of his life and then make judgments about his past and present life

experiences."

IN FEEDBACK CONDITIONS: "You are able to judge the accuracy of your answers since this person participated in a longitudinal study of personality development. So, you will be able to check your answers against the actual facts."

"When you are finished reading the biography, please complete the 15 multiple choice questions using the computer screen to indicate your answers. Please do not write on the test itself. When you have completed the test the computers will grade them."

IN GROUP FAILURE CONDITIONS: "We would like to give you some sort of feedback on your performance on the test, so as soon as the last person in your group has finished the computer will tell you how your group did as a whole but will not give you any information about your individual performance."

IN INDIVIDUAL FAILURE CONDITIONS: "We would like to give you some sort of feedback on your performance on the test, so when you have finished, the computer will tell you how you did individually. So that you can check the accuracy of your score, the computer screen will also uncover the answer key."

IN NO FEEDBACK CONDITIONS: "Unfortunately we will not be able to give you any feedback about either your or your group's performance, since the tests take a while to evaluate. But your responses will really help us understand the Social Accuracy construct better and so they are very valuable to us."

(ON COMPUTER FEEDBACK: (Group's/subjects) score at the top, which subjects can check against an answer key, and then information indicating that "so far, there are data on only a few MSU students, but on the average they have scored around 8 out of 15 which means they did really well on the test. So you can use these scores as a kind of anchor. If (you/your group) scored 8 or better, then you have very good social accuracy, whereas if you scored between 6 and 8 then you're probably average in this ability and if you scored less than 6, then your score is rather lower than average." In No feedback conditions, no score or key will appear but instead just the normative info about MSU students.)

"In the third task, we are interested in examining how individuals evaluate others about whom they have very little information. Therefore, we are going to have you make judgments about each other based only people's responses to one questionnaire. At this time, please use the provided Personal Information Form to answer several questions about yourself. When you are finished, the experimenter will make photocopies of your form as well as those of the other subjects here today

so that they can be exchanged among you. You will be allowed to read the responses of the other subjects here today and they will be allowed to read yours. Please complete the form now, and slide it out under the curtain of your booth when you are finished. Then wait for further instructions."

THEN COLLECT THE FORMS AS THEY APPEAR. WHEN THE LAST FORM HAS APPEARED, LEAVE THE ROOM AND PRETEND TO PHOTOCOPY THEM. THE DISTRIBUTE THE PRE-COPIED FORMS TO SUBJECTS, BEING SURE TO FOLLOW COUNTERBALANCING INSTRUCTIONS IN THE LOG BOOK. TELL SUBJECTS TO GO AHEAD AND READ THE FORMS. GIVE THEM A COUPLE OF MINUTES TO DO SO, AND THEN ASK THEM TO COMPLETE THE SUBJECT EVALUATION QUESTIONNAIRES. BE SURE TO SAY:

IN PRIVATE CONDITIONS ONLY: "Do not put your name on the reward sheet. Instead, put only your group membership (overestimator or underestimator) and your code number. This is to ensure that your responses are completely anonymous. When you have finished, please come out and put your questionnaires in that box, where they will be stored until the data coders examine them."

IN PUBLIC CONDITIONS ONLY: "Since it is important that we be able to identify who made which judgments, be sure to put your full name and student number at the top. When you are finished, raise your hand so that the experimenter can come over and read your responses."

WHEN EACH SUBJECT FINISHES, ASK HER TO ANSWER THE FOLLOWING QUESTIONS PRESENTED ON THE COMPUTER SCREENS. HIT THE LETTER "?" ON THE COMPUTER TO ALLOW THE PROGRAM TO CONTINUE.

WHEN ALL SUBJECTS OPEN THEIR CURTAINS, BEGIN DEBRIEFING. ALLOW THEM TO LISTEN TO THE TAPE IF THEY DESIRE AND GIVE THEM A COPY OF THE DEBRIEFING SHEET IF THEY WOULD LIKE ONE. THANK THEM FOR PARTICIPATING. ONE POSSIBLE SCRIPT:

EXPERIMENTAL DEBRIEFING FOR DISSERTATION

This experiment session is about over. At this point, I want to go over each of the procedures that you have gone through and how you feel about them. In addition, and maybe most important, I want to tell you more about this study, what we were looking for and why you had the experiences that you did.

Any Questions?

There is more to this study than I have told you so far. But before I tell you more about it, I want to remind you of some general issues in social psychology research. You may have read about some of these in your psychology class so

please interrupt if you have something to contribute. Also, feel free to interrupt if something is unclear or if you want more explanation. Okay?

Sometimes it is necessary to not tell people all about the purpose of the study at the very beginning. If we did, then people would know exactly what we are looking for. Then as other studies have shown, their behavior would be different. This would mean that the findings would not be accurate even though we might not know that they are inaccurate. Then people like yourselves would be reading about inaccurate, or false findings in your psychology textbooks. And we wouldn't want that.

What we want to find out in psychology experiments is the way people behave, or how they feel, in everyday situations. If we told people what we are looking for, then they might do what they think we want them to do. This would contaminate the results.

Also, you may have read about something called random assignment, in your psychology class. Most psychologists are interested in what causes what - so they do experiments. In these experiments, they manipulate certain things, like for example, the lighting of the room, or distractions such as noise in the background. Then they look at how these independent variables affect some dependent variable, like how good or bad you feel, or how well you perform a task.

What if we let people choose the lighting of the room and found that bright rooms were related to better performance? Could we conclude that bright rooms will cause better performance? No, we couldn't. Because we haven't used random assignment - and it might be that more motivated people choose bright rooms and they also happen to do better on the task.

So, as you might have guessed at this point, the actual purpose of this study was more extensive than we told you at the beginning. You understand why we didn't tell you all about it at the beginning? (Pause)

We expect that when people are given information about themselves that indicates they have not performed well on a test, this might influence the kinds of judgments they make about other people. Specifically, one way to feel better about oneself after hearing that you or your group have failed on a test might be to give lower evaluations of members of a different group. This is why we were interested in examining your evaluations of an average member of your group as well as an average member of another group. In this study, we also had to use random assignment.

Do you understand why we had to do that?

This means that the scores on the Social Accuracy Test were randomly assigned. In other words, we, the experimenters, decided before you ever showed up that you would be given those scores. In fact, every subject is given the same scores. Do you understand why we did this? We did this because we had to use random assignment in order to examine the impact of failure on ratings of others.

One important thing about all this is how you feel. We have found in the past that people in these kinds of experiments sometimes feel worse about themselves after they have gone through getting the low scores. It is extremely important that you feel okay. Most important, the feedback you were given was totally random. That is, those scores were made up way before you got here and you got the same scores as everybody else.

Before you go, I'd like to ask you to do me a big favor. Remember what we talked about when we were discussing how participants shouldn't know the true purpose of a study until afterwards?

I want to ask you to agree not to discuss the purpose of this with anyone who might participate or know someone who will participate. Can you do that? Good. Here is a confirmation that I would like you to sign. It states that you have been told the purpose of the study and that you agree not to discuss it with anyone else for a least 2 months. Thank you for participating.

CONFIRMATION FORM

I, _____, have been told and fully understand the purpose and procedures involved in this study on study behavior. I further agree not to discuss the aspects of this study with another person who might participate, or know someone who might participate for at least 2 months.

_____

Signature