Intergroup Threat and Outgroup Attitudes: A Meta-Analytic Review

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This article examines the relationship between intergroup threat and negative outgroup attitudes. We first qualitatively review the intergroup threat literature, describing the shift from competing theories toward more integrated approaches, such as the integrated threat theory (ITT; W. G. Stephan & Stephan, 2000). The types of threats discussed include: realistic threat, symbolic threat, intergroup anxiety, negative stereotypes, group esteem threat, and distinctiveness threat. We then conducted a quantitative meta-analysis examining the relationships between various intergroup threats and outgroup attitudes. The meta-analysis, involving 95 samples, revealed that 5 different threat types had a positive relationship with negative outgroup attitudes. Additionally, outgroup status moderated some of these relationships. Implications and future directions are considered.

This article addresses a proposed cause of intergroup bias and prejudice: intergroup threat. As a general definition, intergroup threat occurs when one group’s actions, beliefs, or characteristics challenge the goal attainment or well-being of another group. To date, although a number of separate studies support the importance of intergroup threat for understanding the etiology of intergroup bias (for reviews of specific types of threats see J. Jackson, 1993; Sears & Henry, 2003) no systematic, quantitative review of this literature has been conducted. In this article we first review the theories linking intergroup threat to intergroup bias using a qualitative approach. Second, we utilize quantitative, meta-analytic procedures to examine the effects of intergroup threat on outgroup attitudes across the literature, focusing primarily on the utility of integrative theories such as the integrated threat theory (ITT; W. G. Stephan & Stephan, 2000). This quantitative approach also permits systematic examination of potential moderators of the proposed relationships between threat and attitudes, such as outgroup status. Third, we discuss future directions for research, including potential strategies for reducing intergroup threat.

Realistic Group Conflict Theory

One of the earliest theories to consider intergroup threat was realistic group conflict theory (RGCT), which proposes that when two groups are in competition for scarce resources, the potential success of one group threatens the well-being of the other, resulting in negative outgroup attitudes (Sherif & Sherif, 1969). These resources may be tangible (e.g., money) or may involve issues of power or control (e.g., political power; Bobo, 1988). Related to the competition over resources are issues of intergroup goals. Sherif and Sherif (1969) proposed that when the goals of different groups are complementary, relations between the groups will be positive, however, when conflicting goals exist relations will deteriorate. The resulting conflict may increase ingroup solidarity, which in turn widens the ingroup/outgroup distinction, creating intergroup hostility.

To test RGCT, Sherif et al. (1961) divided children in a summer camp program into two separate groups. Once group boundaries were established, the children engaged in a number of zero-sum, competitive activities (e.g., sporting events). Because these activities permitted victory of only one group over the other, one group’s success precluded and thus threatened the success of the other group. As competition continued, hostility between the groups increased. This hostility became quite severe and in some cases led to physical violence. The bias between the groups decreased only when common goals that required intergroup cooperation were introduced. In addition to the camp study, other researchers have shown that both incompatible goals and perceived competition between groups are related to negative outgroup attitudes, lower levels of support for affirmative action programs, and stereotyping (Beaton & Tougas, 2001; Langford & Ponting, 1992; Tougas, Brown, Beaton, & Joly, 1995; Watts, 1996; Zarate, Garcia, Garza, & Hitlan, 2004).
Although initial studies of RGCT presented groups with threats that directly impacted the individuals involved, it is proposed that biases between groups may still occur when there is not a direct threat to the self (Bobo, 1983). In this sense, when the interests of a group as a whole are threatened, members perceive this as threatening even though self-interest is not directly impacted. For example, a White male may perceive affirmative action as threatening the overall interests of his ingroup even when he is not personally affected.

Since the initial studies on RGCT, the relationship between conflict and intergroup bias has been shown across a variety of situations where one group threatens the interest of another group. Brown, Maras, Masser, Vivian, and Hewstone (2001) examined conflict and intergroup bias between British ferry passengers and the French during a period when French fishermen were blockading a port used by the British ferry, which threatened the goals of the British passengers. In line with the predictions of RGCT, both perceived and actual (objective) conflict between the groups were related to higher levels of aggression toward the French. In another study, Quillian (1995) examined national survey data in 12 countries and found that when economic conditions were poor and the size of a racial minority or immigrant group was large in proportion to the majority group, bias toward these groups was high. Presumably, when there is a large outgroup presence, economic difficulties are attributed to these outgroup members who are seen as threatening ingroup well-being.

Recently, other researchers have applied RGCT to explain bias toward immigrant groups by assuming that the perception that immigrant gains come at the expense of the resident group creates negative attitudes toward immigration and immigrants (Esses, Dovidio, Jackson, & Armstrong, 2001; Esses, Jackson, & Armstrong, 1998). For example, if immigrants are seen as usurping jobs and thereby threatening the economic well-being of residents, it may result in a negative view of the immigrant group. McLaren (2003) measured levels of realistic threat in 17 European countries and found that levels of perceived realistic threat were related to a preference for the expulsion of immigrants.

Symbolic Threat

Although RGCT explains how conflict over resources can create perceptions of threat, it does not address instances of bias in the absence of such conflict. Other researchers, however, developed an alternative theory involving the influence of threat on intergroup bias. Proponents of symbolic racism theory have proposed that racism results from conflicting values and beliefs rather than from competition or conflicting goals (Kinder & Sears, 1981; McConahay, 1982). Symbolic racism proposes that racial bias is no longer the result of perceptions that Blacks are biologically inferior to Whites (i.e., traditional racism), but instead is due to beliefs that Blacks violate and thereby threaten values that are important to Whites (Sears, 1988). For example, White Americans may believe that the value of equity prevalent in the White-dominated American culture is threatened by affirmative action programs. Many Whites may not believe that prejudice and discrimination are still prevalent and therefore see such programs as violating the equity value by giving minorities an unfair advantage. This is a different construal of Whites’ reactions to affirmative action than that proposed by RGCT, with the threat arising from conflicting values rather than perceived competition over resources.

Kinder and Sears (1981) compared the competing theories of RGCT and symbolic racism in a study of voting patterns in a mayoral race in which one candidate was Black and the other was White. The likelihood of an individual voting for the Black candidate was compared with reported levels of realistic and symbolic threat. Realistic threat was measured by assessing how much individuals felt they would be personally affected by such issues as busing and desegregation; the symbolic threat measure focused on general perceptions of value violations by Blacks (e.g., pushing too hard; have gotten more than they deserve). Consistent with the symbolic racism perspective, symbolic racism was a stronger predictor of candidate preference than was realistic threat.

Other research has shown that threats to important values can increase intergroup bias. Biernat, Vescio, and Theno (1996) found that the majority of Whites perceived Blacks as not supporting their values and these Whites had relatively more negative evaluations of Blacks than those Whites who perceived Blacks as supporting their values. A related study indicated that as the perceived gap between ingroup and outgroup values increases, so do negative outgroup attitudes (Dunbar, Saiz, Stela, & Saez, 2000). Additionally, as postulated by Kinder and Sears (1981), threats to values have also been shown to influence attitudes toward social policies aimed at helping minorities (Sawires & Peacock, 2000).

Although symbolic racism was initially formulated to explain the anti-Black bias of Whites, the relationship between symbolic threat and intergroup bias has been revealed in other intergroup settings as well, including body-type and sexual orientation groups (Crandall, 1994; L. M. Jackson & Esses, 1997; NIcholas & Durheim, 1995). For example, individuals who see homosexuals as violating important values (e.g., belief that homosexuality is amoral) tend to have negative attitudes toward homosexuals (Haddock, Zanna, & Esses, 1993; Wyman & Snyder, 1997). Zanna (1994) demonstrated that the relationship between value vio-
lations and negative outgroup attitudes holds across a number of different target outgroups.

Symbolic threats have also provided an alternative explanation for biases against immigrants. Although RGCT focuses on economic threats as explanations for prejudice against immigrants, symbolic threat theory (Sears, 1988) proposes that these biases are due to perceived threats to cultural values. Multiple studies have illustrated that perceived threats to the ingroup’s values by foreigners are related to increases in negative attitudes toward immigrants (Esses, Haddock, & Zanna, 1993; Esses, Hodson, & Dovidio, 2003). Additionally, in some instances, beliefs that foreigners would negatively impact or undermine American values is a stronger predictor of negative attitudes toward immigrants than perceptions of realistic threats (McLaren, 2003).

Integrated Threat Theory

Although symbolic racism and RGCT propose different specific causes for negative outgroup attitudes, each regards beliefs that the outgroup is threatening as a fundamental factor in determining outgroup attitudes. Initially, realistic conflict and symbolic theories of intergroup relations were in direct conflict with one another as the literature of the time reflects (Bobo, 1983; Kinder & Sears, 1981; Sniderman & Tetlock, 1986). More recently, researchers have begun to consider these two conceptions of threat as complementary rather than as mutually exclusive. Studies that have measured both realistic and symbolic threats have shown that both types of threats can account for unique portions of the variance in attitudes toward outgroups (McLaren, 2001; Wilson, 2001).

Recently, W. G. Stephan and Stephan (1996, 2000) proposed ITT, which classifies threats into four major types: realistic threat, symbolic threat, intergroup anxiety, and negative stereotypes. Rather than conceptualizing the relationship between threat and attitudes as stemming from either competition or value conflict, ITT proposes that both can influence outgroup attitudes simultaneously. Within ITT, realistic threat is similar to the threats considered by RGCT and includes perceptions of competition, conflicting goals, and threats to physical and economic well-being of the ingroup. Symbolic threat is similar to the ideas underlying symbolic racism, where threat arises from a conflict in values, norms, and beliefs between groups.

Although intergroup anxiety and negative stereotypes have not been traditionally considered to be forms of intergroup threat, W. G. Stephan and colleagues argued that they also reflect concerns about negative outcomes from intergroup relations and therefore constitute unique types of threat (W. G. Stephan & Stephan, 1996, 2000). Intergroup anxiety involves feelings of uneasiness and awkwardness in the presence of outgroup members because of uncertainty about how to behave toward them, which makes interactions with outgroups seem threatening (W. G. Stephan & Stephan, 1985). Intergroup anxiety has been demonstrated to be a predictor of outgroup attitudes and bias (Ho & Jackson, 2001; Islam & Hewstone, 1993; Voci & Hewstone, 2003) and furthermore, people who tend to be generally high in anxiety often exhibit higher levels of prejudice (Hassan, 1978).

Plant and Devine (2003) examined both antecedents and consequences of intergroup anxiety and found that unfavorable outgroup contact and negative expectations both led to increases in intergroup anxiety. As intergroup anxiety increased so did hostility and the desire to avoid contact with outgroup members. The relationship between intergroup anxiety and negative outgroup attitudes has been observed across a variety of natural settings as well as in the laboratory (Brown et al., 2001).

Negative stereotypes generate threat by creating negative expectations concerning the behavior of outgroup members. Stereotypes have long been associated with negative outgroup attitudes (Eagly & Mladinic, 1989; Spencer-Rodgers & McGovern, 2002). Additionally, negative expectancies influence social information processing and social judgments (Hamilton, Sherman, & Ruvolo, 1990; Ybarra, Schaberg, & Keiper, 1999). W. G. Stephan and Stephan (1996) postulated that because negative stereotypes represent negative expectations about outgroups, negative stereotypes occur in conjunction with negative emotions (e.g., fear, anger) toward the outgroup, which intensify negative outgroup attitudes.

The four threats are proposed to contribute to negative outgroup attitudes and robust support for the ITT has been found across a number of intergroup contexts. All four types of threat predict attitudes toward racial outgroups in both White and Black samples (W. G. Stephan et al., 2002). The theory has also been utilized to predict gender attitudes (C. W. Stephan, Stephan, Demitrakis, Yamada, & Clason, 2000) and attitudes toward various immigrant groups (W. G. Stephan, Ybarra, & Bachman, 1999; W. G. Stephan, Ybarra, Martinez, Schwarzwald, & Tur-Kaspa, 1998). In addition to racial, gender, national, and ethnic groups, the integrated threat model has been used to predict negative attitudes toward cancer patients and people with AIDS (Berrenberg, Finlay, Stephan, & Stephan, 2002). Furthermore, a number of antecedents to intergroup threat have been identified. High levels of negative contact between groups predict higher levels of perceived threat as does high ingroup identification and perceived intergroup conflict (Corenblum & Stephan, 2001; W. G. Stephan et al., 2000). Status differences between groups also relate to higher levels of threat, such that as the difference in status increases the degree of perceived threat increases (W. G. Stephan et al.,
Moreover, outgroup status differentially influences reactions to threat. Cadinu and Reggiori (2002) found that group threat led to stronger devaluation of low status relative to high status outgroups.

In terms of negative outgroup stereotypes, there has been some question as to whether they are best conceptualized as an independent threat that directly predicts outgroup attitudes or as an antecedent of the other types of threat (i.e., realistic, symbolic, anxiety). To explore this issue, W. G. Stephan and colleagues (2002) measured all four types of threat and outgroup attitudes among Black and White samples and compared two models, one with all four types of threat directly predicting outgroup attitudes and the other with negative stereotypes as an antecedent to the other types of threat. The results suggested that the second model, using negative stereotypes as an antecedent, was the superior model. Realistic threat, symbolic threat, and intergroup anxiety all mediated the relationship between negative stereotypes and racial attitudes. Nevertheless, this mediation was not always complete and in the White sample a significant direct effect of negative stereotypes on racial attitudes remained even after the mediation effects were considered. Thus, although negative stereotypes do predict the other types of threat, they also predict outgroup attitudes directly (i.e., independent of other threats).

**Additional Threat Theories**

Although the threats involved in the ITT have garnered considerable attention, other theories suggest additional types of intergroup threat that may relate to outgroup attitudes.

**Group Esteem Threats**

Belonging to positively valued groups is important for a member’s self-image and when the actions of an outgroup potentially decrease an ingroup’s esteem a threat is posed that may instigate intergroup bias (Tajfel & Turner, 1979). Branscombe, Ellemers, Spears, and Doosje (1999) defined this circumstance as a threat to the ingroup’s perceived value. To avoid confusion with values related to symbolic threat, we refer to this as *group esteem threat*. When the ingroup’s image is threatened by an outgroup a person may disidentify or leave the ingroup (Tajfel & Turner, 1986). However, Tajfel and Turner noted that when these reactions are not possible or desirable, another option is to derogate the source of the threat.

Support for the relationship between group esteem threat and intergroup bias has been found across a number of studies. Unlike the research on the threats incorporated in the ITT, most of the studies on group esteem threat have involved experimental, rather than correlational research designs. For example, Branscombe and Wann (1994) found that when highly identified American participants viewed a film in which an American boxer was beaten by a Russian boxer it led to decreases in their collective self-esteem, which in turn increased the likelihood of derogating Russians. Similarly, Branscombe, Spears, Ellemers, and Doosje (2002) threatened the prestige of a group by informing participants that members of another group had negatively evaluated them, thereby threatening their group’s esteem. Consequently, this led to lower perceptions of public collective self-esteem and fewer rewards allocated to the threatening outgroup. Although group esteem threats are likely to result in negative attitudes toward the source of the threats, there is also evidence that group esteem threat can result in negative attitudes toward other outgroups unrelated to the source of the threat (Leach, Spears, Branscombe, & Doosje, 2003).

Identification with the ingroup moderates the relationship between group esteem threats and intergroup bias. The stronger the identification with the ingroup, the stronger the reactions to group esteem threats (Branscombe et al., 1999). According to Branscombe and Wann (1994), members who weakly identify with a group facing esteem threat may not be sufficiently motivated to maintain a positive group image by derogating the threatening outgroup. Ingroup identification also seems to increase commitment to the ingroup in the face of esteem threats. For example, when the ingroup is of low status, high identifiers increase their contributions to the group significantly more than low identifiers, most likely in an effort to increase the ingroup’s status (Ouwerkerk, de Gilder, & de Vries, 2000).

**Distinctiveness Threat**

Distinctiveness threat is another type of threat related to social identity. According to social identity theory (Tajfel & Turner, 1986), people seek membership in positively distinct groups and threats to ingroup distinctiveness are therefore aversive. Intergroup comparisons with a very similar outgroup threaten group uniqueness and distinctiveness (Branscombe et al., 1999), therefore very similar groups may prompt more competitive intergroup comparisons leading to higher levels of intergroup bias. In this regard, Roccas and Schwartz (1993) manipulated the degree of intergroup similarity and found that as similarity increased, high identifying group members showed an increase in intergroup bias along dimensions relevant to the ingroup. Additionally, on some resource allocation tasks there is more discrimination against members of similar relative to dissimilar outgroups (Diehl, 1988).

As with group esteem threat, distinctiveness threat seems to impact highly identified ingroup members.
more than low identifiers. Jetten, Spears, and Manstead (2001) found that under conditions of low intergroup distinctiveness, high identifying ingroup members displayed higher intergroup bias relative to low identifiers. Apparently, identification acts as a moderator of the relationship between distinctiveness and intergroup bias, such that only highly identified ingroup members are sufficiently motivated to react to low distinctiveness because the ingroup is an important part of their identity.

In a recent meta-analysis, Jetten, Spears, and Postmes (2004) found that although threats to distinctiveness did not necessarily impact intergroup judgments, these threats did influence behavioral reactions. When intergroup distinctiveness is low and thus distinctiveness threat is high, intergroup behavioral biases (e.g., in resource allocation tasks) tend to be stronger than when distinctiveness threat is low. However, the average effect size for this relationship was relatively small ($r = .046$).

**Biocultural Model of Threat**

Neuberg and Cottrell (2002) examined issues of intergroup threat in their biocultural model of intergroup emotions. Whereas other intergroup threat theories focus mainly on the causes of threat, Neuberg and Cottrell’s model elaborates on our reactions to threat. They theorized that for adaptive reasons, different intergroup threats lead to different emotional responses, which then lead to different attitudinal and behavioral outcomes. Although different threats are expected to result in specific emotions, Neuberg and Cottrell suggested that anger will also accompany the majority of intergroup threats.

Neuberg and Cottrell (2002) divided intergroup threats into two broad categories: threats to group-level resources and threats to group integrity. The resource threats include threats toward group safety, group possessions, and economic security. These threats parallel realistic threats. The integrity threats include threats to group values, morality, competence, and reciprocity relations. These threats share commonality with symbolic and social identity threats.

The primary advantage of Neuberg and Cottrell’s (2002) model is that it focuses on a series of behavioral outcomes that differ depending on the type of threat. For example, threats to the ingroup’s economic security (e.g., immigrant groups “stealing” jobs) are predicted to lead to anger and fear, which in turn are expected to promote an aggressive response to maintain economic security. On the other hand, threats to the image of the ingroup’s competence (e.g., perception of Asians being intellectually superior to Whites) are expected to lead to envy and anger followed by behaviors that diminishes the outgroup’s accomplishments or bolsters the ingroup’s abilities. This allows for clear and specific predictions associated with different types of intergroup threat.

Initial findings have provided support for this model. In an early study to utilize Neuberg and Cottrell’s (2002) model, White participants’ perceptions of various threats, their general prejudice level, and emotional reactions to a number of different outgroups were measured. As predicted, participants had different perceptions of threat for different outgroups as well as different emotional reactions. For example, when the outgroup was Blacks, participants reported high perceptions of threat to the ingroup’s safety and personal property. Blacks were also more likely than the other outgroups to elicit fear and anger. Whereas other outgroups, such as Asian-Americans and Native Americans, elicited different patterns of threat perceptions and emotional reactions. For example, Native Americans were perceived to represent a threat to ingroup values and evoked emotions such as pity and guilt.

**Summary**

Overall, our qualitative review reveals that intergroup threats affect outgroup attitudes. Although early research on intergroup threat was somewhat disparate and different conceptions of threat were seen as competitive, recently researchers have begun integrating the different types of threat into more comprehensive conceptual models (Neuberg & Cottrell, 2002; W. G. Stephan & Stephan, 1996). The purpose of the second part of our review is to examine the relationships between the different types of intergroup threat and outgroup attitudes across the literature by conducting a quantitative meta-analysis. Such an analysis provides a measure of the magnitude of effect sizes across a large number of studies and we expect that the different types of threat will show significant and unique relationships with outgroup attitudes. Additionally, a meta-analysis can reveal undetected effects for variables that may otherwise be overlooked when considering each study by itself. In particular, it permits the exploration of potential moderating variables (e.g., the social status of the threatening outgroup) on the relationships between the various types of intergroup threat and outgroup attitudes.

**Method**

**Literature Search**

We chose to focus on the following types of intergroup threat in the current meta-analysis: realistic threat, symbolic threat, intergroup anxiety, negative stereotypes, and group esteem threat. The first four are
the threats included in W. G. Stephan and Stephan's (2000) ITT and group esteem threat derives from re-
search on social identity threat (Branscombe, Ellemers, Spears, & Doosje, 1999). We did not include
distinctiveness threat because a comprehensive meta-
analysis on this issue was recently conducted (Jetten, Spears, & Postmes, 2004). To obtain the most
comprehensive pool of research findings concerning
the relationship between perceived threat and outgroup
attitudes three major strategies were implemented.
First, computer searches of PsycINFO, Dissertation
Abstracts International, and Sociological Inquiry data-
bases were carried out using search terms related to
the five threat types and outgroup attitudes (e.g., realistic
group conflict, value threat, symbolic racism, social
identity threat, etc.). Second, we obtained articles or
book chapters cited in the reference sections of any
manuscripts obtained via the computer searches.
Finally, we put out a call for papers on the SPSP
Listserv and contacted researchers in the area of inter-
group threat to obtain any unpublished or in press
manuscripts.

Inclusion Criteria

To be included in the meta-analysis, research re-
ports had to meet several criteria. Each study had to in-
clude a measure of the relationship between one or
more of the five types of intergroup threat and out-
group attitudes. The threat had to be intergroup rather
than interindividual in nature. This meant that studies
in which the threat did not arise from another group or
as a result of group membership were not suitable for
the current review (e.g., studies where threat was cre-
ated via negative feedback from an experimenter; see
Fein & Spencer, 1997). Additionally, studies where the
type of threat (e.g., symbolic or realistic) could not be
distinguished were not included. Indexes of outgroup
attitudes that were acceptable included measures of
outgroup evaluations, intergroup bias, prejudice, or
attitudes toward programs or issues pertaining to an
outgroup (e.g., affirmative action, immigration poli-
cies).

We decided upon correlation coefficients for our ef-
efect size measure, so any potential study had to include
a correlation coefficient describing the relationship be-
tween a type of threat and outgroup attitudes or provide
enough information to calculate one (e.g., r-values,
F-values, means and SD, etc.). We chose to use corre-
lation coefficients because they are commonly used as
a measure of effect size in meta-analyses and were re-
ported in the vast majority of studies. This required the
exclusion of any study that only reported results from
multiple regression or structural equation modeling
analyses, which are not useable in a meta-analysis
(Lipsey & Wilson, 2001). Some studies had dependent
measures where higher values indicated positive
outgroup attitudes whereas in others higher values in-
dicated negative outgroup attitudes. To adjust for this,
we recoded all necessary correlations so that a positive
correlation indicated that higher levels of threat were
related to more negative outgroup attitudes. If a re-
lationship was only reported as nonsignificant, we en-
tered a zero for the correlation coefficient.

Effect Sizes

A mixed-effects model was used in the current anal-
yses, where it is assumed that there are systematic dif-
fferences in the effect sizes that can be accounted for by
moderating variables, but allows for the possibility that
other, unmeasured factors may be influencing the vari-
ance of the effect sizes (Raudenbush, 1994). A mixed-
model approach was a more conservative choice and less prone to Type I errors compared to the
fixed-effects approach (Hedges & Vevea, 1998). Each
correlation coefficient was transformed using Fisher's
Z transformation (Hedges & Olkin, 1985) and was then weighted for differences in sample sizes. Al-
though Hunter and Schmidt (1990) recommended cor-
recting each correlation for attenuation using scale
reliabilities, a large number of studies did not report
alphas for the measures or utilized single-item mea-
sures making correction for attenuation difficult. One
possible solution was to use the mean scale reliability
when no reliability statistic was reported (Rosenthal,
1994). However, because the measures of both threat
and outgroup attitudes differed widely across studies
this did not seem to be an effective solution. Therefore,
no corrections for attenuation were implemented.
Using the weighted correlations, we calculated an av-
average effect size for the relationship between each of
the five threat types and outgroup attitudes.

Antecedent Analyses

In addition to examining the effects of the various
threat types on outgroup attitudes, we examined the
impact of two variables on the intergroup threat types:
negative stereotypes and ingroup identification. Be-
cause negative stereotypes have been found to have
both direct and indirect effects on outgroup attitudes
(W. G. Stephan et al., 2002), we examined the effect of
negative stereotypes on the other types of threat in ad-
dition to their direct effect on outgroup attitudes.
Ingroup identification has also been considered an an-
tecedent to intergroup threat (W. G. Stephan &
Stephan, 2000), so the relationships between identifi-
cation and intergroup threat were examined.

Moderator Analyses

Each study was coded for a number of potential
moderators of the threat-attitude relationship. Because
threat differentially influences evaluations of low and high status outgroups (Cadini & Reggiori, 2002), we coded for whether the outgroup was of relatively low or high social status. Social status was determined by the relative value that society generally ascribes to the outgroup compared to the ingroup (e.g., Whites vs. racial minorities, men vs. women, heterosexuals vs. homosexuals). For example, studies where Whites were threatened by Blacks were coded as involving a low social status outgroup, whereas studies with Blacks threatened by Whites were coded as having a high social status outgroup.  

We also coded for characteristics of each study to determine whether methodological differences between the studies influenced the effect size of the threat-attitude relationship. First, we coded whether intergroup threat was manipulated or only measured. When threat was measured, we coded whether the measures for each type of threat used a highly reliable scale (α > .75), a low reliability scale (α < .75), a scale with no reported reliability, or a single item measure. Second, because ITT has been one of the most widely examined theories of intergroup threat, we also coded whether or not each study utilized W. G. Stephan and Stephan’s (2000) measurement scales of the different intergroup threat types. Third, because outgroup attitudes were measured in different ways, we coded whether the dependent variable involved either outgroup evaluation ratings (on assorted characteristics), prejudice scales (e.g., Brigham’s, 1993, Attitude Toward Blacks scale), intergroup bias (ingroup ratings minus outgroup ratings), or attitudes toward social policies pertaining to the outgroup.

### Results

#### Overall Effect Sizes

A total of 95 separate samples were used in the current analysis. All the included studies and their effect size measures can be seen in the Appendix (available online at http://www.leaonline.com/doi/pdf/10.1207/s15327957pspr1004_4A). Results of the meta-analyses for the relationships between the five threat types and outgroup attitudes are presented in Table 1. As predicted, all five types of threat were significantly related to outgroup attitudes and these relationships were modified in magnitude (realistic threat: r = .42, symbolic threat: r = .45, anxiety: r = .46, negative stereotypes: r = .44, group esteem threat: r = .21). Because only one of the studies in the group esteem threat analysis included an additional type of threat, we were unable to determine group esteem threat’s relationship with the other threat types. The meta-analyses revealed moderate to strong correlations among the remaining four threat types (realistic threat, symbolic threat, intergroup anxiety, and negative stereotypes) with one another (r = .35 to r = .59). Fail-safe analyses for each threat type were run using Orwin's (1983) approach to determine the number of findings with effect sizes of zero that would be necessary to reduce each threat-attitude relationship to a negligible effect size (r = .05). Four of these relationships met the criteria set by Hedges and Olkin (1985), with the fail-safe N being larger than 5 times the number of studies in each meta-analysis plus 10. Group esteem threat did not meet this criterion and although this is likely due to the relatively small number of samples available (k = 11) this suggests a potential publication bias.

To determine the unique effects of each threat type, the meta-analytically derived correlation matrix was used as an input file in SPSS. This matrix included the average weighted correlations between four of the threat types (realistic threat, symbolic threat, intergroup anxiety, and negative stereotypes) and outgroup attitudes as well as the average weighted correlations between each of the threat types. The lack of studies that included group esteem threat along with an additional intergroup threat made it impossible to include group esteem threat in this analysis. We then ran a multiple regression using the SPSS matrix function, simultaneously entering the four threat types as predictors of outgroup attitudes. Although there may be some potential interpretive problems because different correlations in the matrix were estimated from different subsets of studies, similar procedures have been applied in previous meta-analyses (Judge, Heller, & Mount, 2002; Kuncel, Hezlett, & Ones, 2001; Parker et al., 2003).

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1We would have preferred to also examine relationships involving groups of equal status; however, the vast majority of studies in the sample involved groups of unequal status. We were unable to find enough studies where participants would perceive both the ingroup and outgroup as having equal status. For example, in cases involving one national group evaluating another (e.g., Britain vs. France) the groups may be seen as having equal status on an objective level, but it is not clear how the actual participants of the study perceived the status of the outgroup relative to the ingroup. Therefore, in such instances relative outgroup status was not discernable.

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### Table 1. Summary of Effect Sizes for Threat Types and Outgroup Attitudes.

<table>
<thead>
<tr>
<th>Threat Type</th>
<th>r</th>
<th>k</th>
<th>N</th>
<th>Qw</th>
<th>Fail-Safe N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>0.42*</td>
<td>38</td>
<td>37,516</td>
<td>794.72*</td>
<td>281</td>
</tr>
<tr>
<td>Symbolic</td>
<td>0.45*</td>
<td>53</td>
<td>30,004</td>
<td>916.73*</td>
<td>424</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.46*</td>
<td>34</td>
<td>7,964</td>
<td>430.84*</td>
<td>279</td>
</tr>
<tr>
<td>Negative</td>
<td>0.44*</td>
<td>31</td>
<td>9,449</td>
<td>478.45*</td>
<td>242</td>
</tr>
<tr>
<td>Stereotypes</td>
<td>Group Esteem</td>
<td>0.21*</td>
<td>11</td>
<td>1,032</td>
<td>28.04*</td>
</tr>
</tbody>
</table>

Note: r = average Pearson correlation; k = number of samples in analysis; N = total number of participants; Qw = within-class homogeneity statistic.

*p < .05.
Analyses

Table 2. Summary of Effect Sizes for the Antecedents of Intergroup Threat.

<table>
<thead>
<tr>
<th>Antecedent Variable</th>
<th>r</th>
<th>k</th>
<th>N</th>
<th>Qw</th>
<th>Fail-Safe N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Identification</td>
<td>0.16*</td>
<td>9</td>
<td>14,557</td>
<td>154.72*</td>
<td>19</td>
</tr>
<tr>
<td>Negative Stereotypes</td>
<td>0.35*</td>
<td>16</td>
<td>4,554</td>
<td>141.92*</td>
<td>96</td>
</tr>
<tr>
<td>Symbolic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Identification</td>
<td>0.29*</td>
<td>7</td>
<td>2,165</td>
<td>16.57*</td>
<td>34</td>
</tr>
<tr>
<td>Negative Stereotypes</td>
<td>0.37*</td>
<td>23</td>
<td>5,396</td>
<td>198.37*</td>
<td>147</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Identification</td>
<td>0.22*</td>
<td>7</td>
<td>2,260</td>
<td>23.49*</td>
<td>24</td>
</tr>
<tr>
<td>Negative Stereotypes</td>
<td>0.36*</td>
<td>16</td>
<td>4,702</td>
<td>98.30*</td>
<td>99</td>
</tr>
</tbody>
</table>

Note: r = average Pearson correlation; k = number of samples in analysis; N = total number of participants; Qw = within-class homogeneity statistic. *p < .05

Intergroup anxiety and negative stereotypes had the strongest unique relationships with outgroup attitudes ($\beta = .26, p < .01$ and $\beta = .24, p < .01$, respectively). Symbolic threat and realistic threat also displayed significant unique influences on outgroup attitudes ($\beta = .19, p < .01$ and $\beta = .13, p < .01$, respectively). Overall, the four threat types accounted for 36% of the variance in outgroup attitudes ($R^2 = .36$). Taken together, these findings demonstrate that the various types of intergroup threats have a significant and unique impact on outgroup attitudes. The fact that the threat types included in the ITT account for a substantial portion of the variance in attitudes also suggests that ITT provides a reasonable and useful, though perhaps incomplete, framework for conceptualizing the relationship between intergroup threat and attitudes across the available literature.

Antecedent Analyses

Both ingroup identification and negative stereotypes were examined as potential antecedents of intergroup threat. Among the studies of group esteem threat, none included a measure of negative outgroup stereotypes and only two included a measure of ingroup identification, rendering an analysis of the effect of identification on group esteem threat almost impossible. Table 2 reveals that both antecedent variables (i.e., ingroup identification and negative stereotypes) had a significant impact on realistic threat, symbolic threat, and intergroup anxiety, though negative stereotypes showed stronger average effect sizes.

Moderator Analyses

As shown in Table 1, the relationships between the five threat types and outgroup attitudes displayed heterogeneity of effect sizes, suggesting there are potential moderators of these relationships. Moderator analyses revealed that outgroup social status, whether threat was manipulated or measured; the reliability of the threat measures, whether W. G. Stephan and Stephan’s (2000) measures of threat were used; and the type of measure used to assess outgroup attitudes each moderated some of the relationships between the intergroup threats and outgroup attitudes.

Outgroup status. Sixty-nine of the 95 samples were used in the moderator analysis for relative outgroup status. In the remaining cases relative status was not discernable. The status of the threatening outgroup moderated a number of the relationships between the specific intergroup threats and outgroup attitudes. A full description of these relationships is presented in Table 3. Unfortunately, because outgroup status was only discernable in 4 of the 11 samples utilized in the group esteem threat analysis, we were unable to examine whether status moderated this particular threat type.

Relative status moderated the relationship between anxiety and outgroup attitudes, $Q_w(1) = 4.81, p < .05$. When outgroups were of relatively low status (e.g., racial minorities, females) anxiety had a stronger relationship with outgroup attitudes than when outgroups were of relatively high status (e.g., Whites, males). Relative outgroup status was also a marginally significant moderator of the relationship between realistic threat and outgroup attitudes, $Q_w(1) = 3.24, p = .07$, and negative stereotypes and outgroup attitudes, $Q_w(1) = 2.79, p = .09$. In both cases, the relationship between the threat type and negative attitudes was stronger when the threatening outgroup was of lower status than when the outgroup was of higher status. Although not significant, the influence of symbolic threat on atti-

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2It was not possible to examine separately each specific group dimension (e.g., race, sex) composing the low and high status outgroups classification because of the small number of samples involving high status outgroups for each specific dimension, particularly as they intersected with each of the four specific intergroup threats. Thus, our statistical analyses required that we aggregate across these specific group dimensions to consider the moderating role of relative group status.
tudes showed a similar pattern. Table 3 shows that, in the majority of cases, once the outgroup status moderator was accounted for, the \( Q_w \) statistic indicated within-category homogeneity, suggesting that no further moderators exist within the subset of high and low status groups. The only exception to this was a significant \( Q_w \) for the low status outgroup studies within realistic threat, indicating that further factors may be influencing the relationship between realistic threat and attitudes within this particular subset.

### Manipulation versus measurement

We first compared those studies that measured threat to those that involved the manipulation of threat. Only studies involving realistic threat and the symbolic threat analyses contained enough samples of both types to make meaningful comparisons. Studies that manipulated the presence of realistic threat obtained significantly weaker relationships between realistic threat and outgroup attitudes \((r = .14)\) than studies where realistic threat was only measured as in survey studies \((r = .43)\), \( Q_h(1) = 7.61, p < .01 \). However, this should be interpreted cautiously because realistic threat was only manipulated in 3 of the 38 studies involving realistic threat. In the case of symbolic threat, there was no significant difference in effect sizes for studies that manipulated symbolic threat \((r = .52)\) compared to those that only measured it \((r = .45)\), \( Q_h(1) = 0.61, p = n.s. \)

### Threat measure reliabilities

Whether the measurement of intergroup threat was a reliable scale, an unreliable scale, a scale with no reported reliability, or a single item measure only moderated the relationship between intergroup anxiety and outgroup attitudes, \( Q_h(1) = 6.46, p < .05 \). Studies with highly reliable measures of anxiety obtained significantly lower \((r = .43)\) effect sizes than studies that did not report a reliability of the anxiety measure \((r = .65)\). The reason for this difference is unclear. None of the studies involving anxiety had unreliable measures or single item measures. The measurement reliabilities of the other threat types (symbolic threat, realistic threat, negative stereotypes) did not have a significant impact on the respective threat-attitudes effect sizes. Group esteem threat was only measured in one sample, making it impossible to examine the effect of measurement reliability for this threat type.

### Type of threat measure

The specific measure of intergroup threat used moderated the relationship between realistic threat and outgroup attitudes, \( Q_h(1) = 7.95, p < .05 \), such that studies that used W. G. Stephan and Stephan’s (2000) measures of realistic threat reported larger effect sizes \((r = .47)\) than studies that utilized other measures of realistic threat \((r = .36)\). The type of threat measure did not moderate the relationships between the other three threat types and outgroup attitudes.

### Outgroup attitude measure

The nature of the outgroup attitude measure was only a significant moderator of the relationship between anxiety and outgroup attitudes, \( Q_h(2) = 7.54, p < .05 \). Contrasts conducted using Quinones, Ford, and Teachout’s (1995) z-test method revealed that studies using intergroup bias (i.e., ingroup attitudes minus outgroup attitudes) as a dependent measure had significantly lower effect sizes \((r = .22)\) than studies using only outgroup evaluations \((r = .46, z = 2.13, p < .05)\) or studies using prejudice scales \((r = .56, z = 2.74, p < .05)\). None of the studies used in the anxiety analyses included attitudes toward programs or issues pertaining to an outgroup. Studies using outgroup evaluations and prejudice scales as dependent measures did not significantly differ in terms of the strength of the relationship between anxiety and outgroup attitudes.

### Table 3. Group Status as a Moderator for Threat-Attitude Effect Sizes.

<table>
<thead>
<tr>
<th>Relative Outgroup Status</th>
<th>( Q_h )</th>
<th>( k )</th>
<th>( r )</th>
<th>( Q_w )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>2.88**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>27</td>
<td>.48</td>
<td>58.99*</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>5</td>
<td>.34</td>
<td>3.82</td>
</tr>
<tr>
<td>Symbolic</td>
<td>2.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>39</td>
<td>.45</td>
<td>48.02</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>6</td>
<td>.34</td>
<td>4.58</td>
</tr>
<tr>
<td>Anxiety</td>
<td>4.83*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>16</td>
<td>.52</td>
<td>16.59</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>10</td>
<td>.38</td>
<td>8.91</td>
</tr>
<tr>
<td>Negative Stereotypes</td>
<td>2.79**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>24</td>
<td>.46</td>
<td>15.23</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>5</td>
<td>.29</td>
<td>1.21</td>
</tr>
</tbody>
</table>

Note: \( Q_h \) = between-classes effect; \( k \) = number of samples involved in analysis; \( r \) = average Pearson correlation; \( Q_w \) = Within-class homogeneity.

*\( p < .05 \), **\( p < .10 \).
Discussion

Overall, the results of the meta-analysis indicate that intergroup threat has an important relationship with outgroup attitudes. As people perceive more intergroup competition, more value violations, higher levels of intergroup anxiety, more group esteem threats, and endorse more negative stereotypes, negative attitudes toward outgroups increase. The analysis also reveals that four of the threat types are moderately to strongly correlated with one another, suggesting a common, underlying factor. Integrative frameworks, such as W. G. Stephan and Stephan’s (2000) ITT seem to be advantageous relative to examining each threat type separately because interrelationships between the threat types can be examined. This suggests that future research should consider integrating as many threats as possible. Although the ITT is an extremely useful framework for conceptualizing intergroup threat, some modifications to the model may further increase its effectiveness.

Antecedents of Intergroup Threat

A number of antecedents to intergroup threat have previously been studied (W. G. Stephan et al., 2002; W. G. Stephan & Stephan, 2000) and in the current analyses were able to meta-analytically examine two of them: ingroup identification and negative stereotypes. Ingroup identification appears to have a weak, though statistically significant, effect on intergroup threat; high identifiers experience higher levels of intergroup threat than low identifiers. This makes sense, because the more important the ingroup is to individuals the more sensitive they may be to anything that could harm their group. However, it is important to note that because the majority of studies included in our analyses were correlational in nature, where the direction of causality is unclear, it is also possible that threats to the ingroup could cause an increase in ingroup identification. Some experimental evidence has shown that threats increase identification (Jetten, Branscombe, Schmitt, & Spears, 2001) and therefore the relationship between identification and intergroup threat should be examined experimentally to determine the direction of causality.

Negative stereotypes are positively related to the other threats specified by the ITT. Furthermore, similar to W. G. Stephan and colleagues’ (2002) findings, negative stereotypes are shown to have both direct and indirect relationships with outgroup attitudes. Although negative stereotypes have a moderate relationship with other threat types, they also maintain a direct, unique relationship with outgroup attitudes. Complicating the issue further is the possibility that negative stereotypes may also be a consequence of intergroup threat. Some suggestions have been made that prejudice can be the cause of negative stereotypes as well as vice versa (Brewer & Alexander, 2002; Dovidio, Brigham, Johnson, & Gaertner, 1996). If true, then it seems reasonable to assume that intergroup threats may create negative stereotypes (e.g., “members from Group X are aggressive because they are all after our jobs”). Clearly, the role of negative stereotypes in future theories of intergroup threat needs to be examined from multiple perspectives.

Moderators of Threat/Bias Relationship

Although the meta-analysis suggests that an integrated approach provides a good understanding of the relationships between threat and outgroup attitudes, characteristics of the threatening outgroup may moderate these relationships. It appears that realistic threat, intergroup anxiety, and negative stereotypes are stronger predictors of outgroup attitudes toward low status rather than toward high status outgroups. This possibly explains why W. G. Stephan and colleagues (2002) found that an integrated threat model accounted for more of the variance in the attitudes of Whites toward Blacks than in the attitudes of Blacks toward Whites. For realistic threat, this effect may be due to high status group members’ perception that low status outgroups are trying to usurp their resources. This may be more aversive than not having resources in the first place, which could explain why the realistic threats posed by low status outgroups have a larger impact on attitudes than the threats from high status outgroups.

As for anxiety, members of low status groups likely have more experience interacting with higher status outgroups than members of high status groups have interacting with lower status outgroups. Thus, relatively low status group members may have adapted to the anxiety associated with interacting with higher status outgroups, which may reduce the impact of anxiety on their outgroup attitudes. However, if high status group members have little experience interacting with low status outgroup members, the anxiety they experience may have a large impact on their outgroup attitudes.

In the case of negative stereotypes, Fiske (1993) suggested that groups higher in power are more likely to rely on stereotypes than lower power groups because they do not need to attend as carefully to individuating information about subordinates. Therefore, the greater utilization of stereotypes by higher status group members may be responsible for the stronger relationship between negative stereotypes and attitudes when the outgroup is of lower status. It is important to note that the results of the meta-analysis do not indicate that lower status outgroups elicit stronger perceptions of realistic threat, anxiety, or negative stereotypes compared to higher status outgroups, but rather that these factors involve a stronger relationship with negative
outgroup attitudes when the outgroup is of relatively low status. It is also important to recognize that all of the moderator analyses were exploratory in nature and as such, any conclusions need to be carefully reconsidered in future research.

Finally, studies using W. G. Stephan and Stephan’s (2000) measures obtained higher correlations between realistic threat and negative outgroup attitudes than studies that used other measures. Although the scales used in some studies focused on a single aspect of realistic threat (e.g., economic threat), the measure developed by W. G. Stephan and colleagues taps a wider array of realistic threats and therefore may be more effective.

Limitations and Future Directions

In addition to demonstrating the impact of intergroup threat on outgroup attitudes, our qualitative and quantitative analysis also reveals some methodological and conceptual limitations of current approaches. One is the lack of experimental studies, especially in the domains of realistic and symbolic threat. Although some studies have examined intergroup threat experimentally (Branscombe & Wann, 1994; Cadinu & Reggiori, 2002; Grant, 1992, 1993a), the majority of studies were based on correlational research designs that are problematic for determining the direction of causality. Threat could lead to negative attitudes, but negative attitudes could also precede perceptions of threat. Plausible arguments exist for each causation, and it is reasonable to assume the relationship is bidirectional.

Some experimental evidence has shown that the introduction of intergroup threat leads to negative attitudes toward outgroups (Branscombe & Wann, 1994; Grant, 1993a), however, to our knowledge no study has examined whether increases in negative attitudes lead to increases in perceived threat. Future studies may attempt to examine this issue through either a longitudinal design or controlled experimental studies.

Additionally, the overreliance on self-report measures neglects potential behavioral responses to intergroup threat. Although all of the threats may result in negative outgroup attitudes, different threats may lead to different behavioral outcomes. For example, anxiety may cause avoidance, whereas realistic threat may lead to aggressive retaliation. Although this idea has begun to be explored by Neuberg and Cottrell’s (2002) biocultural model, most investigators have not considered these possibilities. Also, there may be alternative ways of assessing perceptions and reactions to threat. For example, physiological measures have been used to examine reactions to outgroup members (Mendes, Blascovich, Lickel, & Hunter, 2002) and reactions to a threatened group identity (Matheson & Cole, 2004). Other investigators have focused on the emotional reactions to threat (Devos, Silver, Mackie, & Smith, 2002; Neuberg & Cottrell, 2002). Smith’s (1993) intergroup emotions theory proposes that different intergroup contexts lead to different emotional reactions. For example, outgroups that are seen as potentially taking away ingroup resources may elicit anger, whereas outgroups that are perceived to block the ingroup from obtaining desired resources may result in frustration. A number of studies have supported the idea of different intergroup contexts resulting in differing emotional responses (Mackie, Devos, & Smith, 2000; Miller, Smith, & Mackie, 2004). Furthermore, both Neuberg and Cottrell’s model and Smith’s intergroup emotions theory predict that different emotional responses lead to different behavioral reactions. Unfortunately, most intergroup threat research has ignored the relationships between different threats, different emotions, and different behavioral reactions. Future research could benefit from a broader approach to the outcomes of intergroup threat.

Although intergroup threat theories have become more integrated (e.g., W. G. Stephan & Stephan, 2000) even further theoretical integration is desirable. To our knowledge, no study has examined issues of realistic or symbolic threat in combination with group esteem or distinctiveness threats. We postulate that group esteem threats operate at the same level and in a similar fashion as realistic and symbolic threat, but it would be interesting to examine how group esteem threat may interact with and influence these other threats. For example, realistic threat accompanied by a loss of ingroup prestige may result in stronger negative attitudes than either threat alone. It is unclear, however, exactly how distinctiveness threat would fit with the other threat types. Possibly, it operates at the same level as realistic and symbolic threat, however, it could potentially act as an antecedent to those threats. For example, when the ingroup’s distinctiveness is threatened by another group it could lead to efforts to emphasize group differentiation in a number of ways, including value differences or differences in material resources. Thus, distinctiveness threat could initiate a number of reactions, some of which may increase symbolic or realistic threat. Further research is needed to explore these potential interrelationships among different threat types.

Another important issue involves the relationship between realistic and symbolic threats. Although it is generally assumed that these two threat types operate at the same level, it is possible that in certain circumstances one type of threat may act as an antecedent to the other. For example, in the cases of religious conflict, symbolic threats may initially be experienced, which in turn leads to conflict and thus realistic threats. Conversely, realistic threats stemming from intergroup conflict may lead to symbolic threats in an attempt to justify the conflict. Therefore, although we believe that realistic and symbolic threats should occupy the same
level in any general model of intergroup threat, the specific characteristics of a given situation may influence this relationship.

It is also unclear if intergroup anxiety acts as a threat in the same location in the casual sequence as realistic and symbolic threat or whether intergroup anxiety is the result of other intergroup threats. Perhaps realistic, symbolic, and group esteem threats increase the likelihood that an individual will experience intergroup emotions, such as anxiety, which then increases negative outgroup attitudes and behaviors. Because anxiety has been described as a more individual-level phenomenon compared the group-level threats such as realistic and symbolic threat (W. G. Stephan & Renfro, 2002; W. G. Stephan & Stephan, 2000), it makes sense that it would be in closest proximity to the formation of negative outgroup attitudes. Intergroup anxiety could be re-examined to determine its appropriate place in the causal chain involving intergroup threat and attitudes.

Future research could also examine more integrative models that include multiple sources of threat. In the proposed model presented in Figure 1, stereotypes, ingroup identification, and distinctiveness threats are antecedents to realistic, symbolic, and group esteem threats. Furthermore, the relations between these threats with outgroup attitudes and intergroup behaviors are mediated by intergroup emotions. This model represents one possible modification to models such as the ITT, however, there are certainly other models that could be tested and compared. Models similar to Neuber and Cottrell’s (2002) could also be constructed to examine if there are different emotional and behavioral outcomes for the different types of threat.

W. G. Stephan and Renfro (2002) have recently differentiated between the realistic and symbolic threats that affect an individual and those that affect the group. Whether these threats directly impact an individual (e.g., threat to a specific individual’s job) or the ingroup as a whole (e.g., a loss of ingroup power) may influence the strength with which these threats impact outgroup attitudes and behavior. However, these relationships would probably be moderated by the strength of the individuals’ ingroup identification. Bizman and Yinon (2001) have found that high identifiers react more strongly to group-level realistic threats than low identifiers, whereas low-identifiers’ attitudes are more influenced by intergroup anxiety, which can be seen as an individual-level threat. This difference between individual-level and group-level threats could also be explored in future integrated models of intergroup threat.

This meta-analysis also suggests additional directions for research on intergroup threat. Although the relationship between intergroup threat and outgroup attitudes is stronger when a high status group is threatened by a lower status outgroup, than vice versa, it is unclear how threat will relate to attitudes when low-status groups are threatened by other low status groups, or when high status group members are threatened by another high status group. For example, when racial minorities perceive realistic or symbolic threat from other minorities, will these threats impact attitudes to the same degree as when racial minorities are threatened by Whites? Because group status moderates the relationship between intergroup threat and attitudes among groups of unequal status, it would be useful to explore these relationships among groups of equal status.

Another avenue of potential research concerns the content of outgroup stereotypes. Although negative stereotypes have been identified as predictors of perceived threat and outgroup attitudes, the possibility that positive stereotypes may also be threatening has been relatively unexplored. Although the negative stereotype that Blacks are violent may increase some Whites’ fear for their safety and perceived realistic

![Figure 1. Potential model of intergroup threat.](image-url)
threat, the positive stereotype of Asians as highly intelligent may increase realistic threat in job or academic settings. Additionally, it is not clear if all negative stereotypes will increase threat and negative outgroup attitudes. The stereotype that a group is unintelligent may not have the same impact as the stereotype that the group is aggressive.

Relatedly, Fiske’s stereotype content model (Fiske, Xu, Cuddy, & Glick, 1999) has proposed that how groups are stereotyped along the dimensions of warmth and competence determines reactions to them. Groups characterized as low in competence, but high in warmth, may be perceived in a condescending fashion, whereas groups high in competence but low in warmth may be viewed with envy (Fiske, Cuddy, Glick, & Xu, 2002). Perhaps groups that differ along these stereotypic dimensions are perceived as posing different types of intergroup threat. Outgroups that are viewed as high in competence may elicit greater realistic threat than outgroups viewed as low in competence. Outgroups that are high in warmth may evoke less intergroup anxiety than outgroups low in warmth. On the whole, there seems to be a number of potential questions concerning the role of negative stereotypes that can be addressed in a model of intergroup threat.

Other issues that could be examined include the etiology and development of intergroup threat. Are certain perceptions of intergroup threat learned and ingrained at an early age? To our knowledge, there has been no longitudinal study of children to determine the developmental course of intergroup threat perceptions. Also, there may be individual differences that influence the likelihood of perceiving a threat from another group. For example, individuals high in Social Dominance Orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) react especially strongly to certain types of threats (Quist & Resendez, 2002). Other personality characteristics (e.g., authoritarianism) may also moderate the relationship between intergroup threats and outgroup attitudes.

Reducing Intergroup Threat

The results of the meta-analysis indicate that intergroup threat predicts negative outgroup attitudes. However, although the majority of the studies have focused on how threat influences outgroup attitudes, little research has addressed reducing intergroup threat. W. G. Stephan and Stephan (2000) have suggested that cultural diversity programs may be effective at reducing symbolic and realistic threats. Because some threats may arise out of ignorance, W. G. Stephan and Stephan also propose that gaining relevant information about the outgroup may reduce symbolic and realistic threats. However, research suggests that people attend to and process information about ingroup and outgroup members differently (Doosje, Spears, & Koomen, 1995; Park & Judd, 1990; Sedikides, 1997), which may decrease positive information’s impact on outgroup stereotypes and attitudes. Perhaps if circumstances (e.g., cooperative interdependence) could motivate increased attention to outgroup information (see Erber & Fiske, 1984), some of these problems could be mitigated.

Other methods may be more applicable to the reduction of intergroup anxiety and the use of negative stereotypes. The effects of contact on the reduction of intergroup biases are quite robust (see Pettigrew & Tropp, 2000) and it is probable that contact would have similar effects on intergroup threat. For example, positive intergroup contact (e.g., cooperation) reduces intergroup anxiety (Hewstone, 2003; Voci & Hewstone, 2003) and there is evidence that it can also reduce other types of intergroup threat (Brown & Hewstone, 2005). Stereotypes can be weakened through contact with outgroup members who are considered typical, but who also disconfirm the stereotype (Wolsko, Park, Judd, & Bachelor, 2003). Additionally, if increasing the salience of positive characteristics about oneself through self-affirmation reduces the impact of individual-level threats on prejudice (Fein & Spencer, 1997), then a variant of this strategy may reduce group-level threats by affirming positive ingroup characteristics.

Because intergroup threat involves motivational and emotional mechanisms, targeting intergroup affect may also offer a way of reducing intergroup threat. Cross-group friendships are effective at reducing intergroup biases (Pettigrew, 1997), perhaps because they initially reduce intergroup threat as well. Perspective-taking increases empathy for outgroup members, which in turn reduces intergroup bias (Galinsky & Moskowitz, 2000; Vescio, Sechrist, & Paolucci, 2003). It is possible that perspective-taking reduces intergroup threat because the empathy induced may counter the negative emotions associated with intergroup threat (e.g., fear, anger). For example, realistic threats often arise from fear that an outgroup will take resources away from the ingroup, but once a situation is seen from another viewpoint, this fear may be attenuated either by the empathy induced or the realization that the initial fears were unfounded.

Another potential means of reducing intergroup threat is to target social categorization processes. Because the categorization of individuals into ingroups and outgroups plays a fundamental role in the initiation of intergroup biases and perceptions of threat, investigators have explored how changing the social categorizations people use can reduce these biases (Brewer & Gaertner, 2001). Perhaps theses categorization strategies could also reduce intergroup threat.

One such strategy is the decategorization approach, which attempts to reduce intergroup bias by dissolving group boundaries so that people are seen more as individuals rather than as group members (Brewer &
Miller, 1984). Because individuals are no longer categorized as outgroup members, the biases that arise from social categorization are reduced (Wilder, 1978). Research has indicated that groups are typically perceived to be more threatening and elicit more fear than individuals (Insko, Schopler, Hoyle, Dardis, & Graetz, 1990; Schopler et al., 1993), therefore, weakening social category boundaries could potentially reduce intergroup threat. For example, in the case of symbolic threat, people may be more willing to accept alternative values or points of view from individuals rather than from a group as a whole. Additionally, Locksley, Borgida, Brekke, and Hepburn (1980) found that people rely less on group stereotypes when interacting with individuals rather than groups, which suggests that decategorization can potentially reduce the threat associated with negative outgroup stereotypes.

An alternative method for reducing intergroup bias is recategorization, which seeks to reshape group boundaries rather than dissolve them (Gaertner, Dovidio, Banker, Houlette, Johnson et al., 2000). The common ingroup identity model (CIIM; Gaertner & Dovidio, 2000) proposes that bias can be reduced by increasing the salience of a more inclusive superordinate identity, so that a shared bond between the groups is perceived. Once former outgroup members are included within a superordinate identity, they can potentially benefit from the same preferential treatment accorded to original ingroup members.

Although most of the research involving the CIIM has examined its direct effect on intergroup bias, it is possible that a common ingroup identity also reduces perceived threat between groups. Once former outgroup members are regarded as ingroup members, there is less reason to perceive them as threatening. For example, a common ingroup identity could focus members' attention on similarities rather than differences between the groups and thereby decrease the salience of the values and beliefs that are unshared, which should reduce symbolic threat. Intergroup anxiety occurs due to an apprehension of negative evaluations by outgroup members (W. G. Stephan & Stephan, 1985), but with a common superordinate identity former outgroup members would be seen as ingroup members and could elicit less anxiety, especially if the other types of threat are reduced.

Although recategorization may reduce some types of intergroup threat, it is possible that it may contribute to distinctiveness threat. There is evidence that a common identity can increase bias in some instances. According to Mummendy and Wenzel (1999), group members project the attributes of their subgroup onto the superordinate identity, resulting in members of each subgroup perceiving themselves as more typical of the superordinate group than members of the other subgroup. This leads to perceiving members of the other subgroup as norm violators and poor exemplars of the superordinate category, which results in elevated levels of bias (Waldzus, Mummendy, Wenzel, & Weber, 2003). This could be due to common identity creating more comparisons between the included subgroups, resulting in members of the subgroups feeling a loss of distinctiveness. Thus, future research should seek to balance the potential gains of recategorization with the potential risks.

These suggested methods for reducing intergroup threat are by no means comprehensive. Other models that have been shown to be effective at reducing intergroup biases should also be investigated. For example, models such as Brown and Hewstone's (2005) integrated model of contact, which stresses both interpersonal and intergroup contact, or the jigsaw classroom approach, which stresses cooperative group work with children (Aronson & Bridgeman, 1979), are two other methods that could also have a large impact on perceptions of threat.

**Conclusion**

The intergroup threat literature has evolved from a competition between the realistic and symbolic explanations to an integrated view that values the importance of these as well as additional types of threat. By meta-analytically examining a large body of research, we conclude that various intergroup threats have a significant impact on outgroup attitudes. Realistic threat, symbolic threat, intergroup anxiety, negative stereotypes, and group esteem threat all displayed significant relationships with outgroup attitudes. Additionally, although current theories such as the ITT provide viable frameworks for understanding these relationships, we encourage future researchers to develop even more fully integrated models and perhaps address some questions raised in this review.

**References**

References marked with an asterisk indicate studies included in the meta-analysis.


INTERGROUP THREATS AND ATTITUDES


Sedikides, C. (1997). Differential processing of ingroup and outgroup information: The role of relative group status in per-


