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Examining the Source and Function of Meta-stereotypes

in a Five-College Context

by

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ABSTRACT

This project aimed to add to the stereotype literature by providing a first look at the sources of meta-stereotype content and functions of meta-stereotyping in a novel intergroup setting: the Five College Consortium. Meta-stereotypes are the beliefs that members in one group hold about how their own group (in-group) is stereotyped by other groups (out-groups). Study 1 explored possible sources of meta-stereotypes through descriptive and correlational analysis. Study 2 was a functional analysis of meta-stereotyping. Data were collected from all five schools. Study 1 suggested that social status and inter-group competition and auto-stereotypes were both sources of meta-stereotypes. Study 2 found no direct support for the hypothesis that group members apply meta-stereotypes to themselves personally to fulfill their need for group distinctiveness, possibly due to the unsuccessful experimental manipulation. Implications for intergroup relations and possible alternative functions of meta-stereotyping were discussed.

INTRODUCTION

There is a long and well-established tradition of studying stereotypes in social psychology. Much has been learned about the source, content, effects and psychological functions of stereotypes. A relatively new concept in this literature is the *meta-stereotype*: the beliefs that members in one group hold about how their own group (in-group) is stereotyped by other groups (out-groups). While it is becoming rapidly apparent that meta-stereotyping plays a role in people's behavior and may be at least as important in intergroup relations as stereotyping, we know little about how and why it has such powerful influences. Therefore, this project aimed to add to the stereotype literature by providing a first look at the sources of meta-stereotype content and functions of meta-stereotyping in a novel intergroup setting.

History of Meta-stereotyping Research

Sigelman and Tuch (1997), often cited as the first to study meta-stereotypes, focused on white-black interracial relations in an American context. They argued that blacks' perceptions of how whites stereotype them were important because such perceptions could influence the behavior of members in both groups. They found that a majority of blacks believed that whites held a large proportion of negative stereotypes toward them, and that this impression did indeed correspond to the stereotypes reported separately by whites. Those who

had more frequent contact with whites in the workplace (black women, younger blacks, and blacks with higher income) were less likely to view whites as holding positive stereotypes than those who had less frequent contact.

Researchers then started to examine how meta-stereotypes, particularly negative ones, may influence inter-group relations. For example, Japanese who hold negative meta-stereotypes of Koreans are likely to show implicit (but not explicit) negative attitudes toward them (Kim & Oe, 2009). Prejudice and negative meta-stereotypes are both important predictors of anxiety experienced in interracial interactions, but negative meta-stereotypes are more important (Finchilescu, 2010). Similarly, for subordinate groups in particular, more negative meta-stereotypes predict less happy feelings in intergroup interactions (Gordijn, Finchilescu, Brix, Wijnants, & Koomen, 2008).

Meta-stereotypes may lead to negative social and psychological outcomes on the individual levels as well. Endorsement of negative meta-stereotypes is associated with negative emotions about intergroup interactions as well as decreases in self-esteem and self-concept clarity (Vorauer, Main, & Connell, 1998). Normal-weight women who are dissatisfied about their body-weight automatically activate negative meta-stereotypes related to over-weight when they think their appearance is evaluated. They are likely to apply these negative meta-stereotypes to themselves and experience negative self-evaluation (Gordijn, 2010). Activation of negative meta-stereotypes is associated with lowered self-esteem, which leads to a lowered in-group identification. This effect is particularly strong

for group members who are low group identifiers to begin with (Owuamalam & Zagefka, 2011).

People are often motivated to *dis*confirm negative meta-stereotypes. Belgian people endorse more positive meta-stereotypes and fewer negative traits when they believe the researchers are from France (the out-group) than when they believe they are from Belgium (the in-group).This holds true both for low and high identifiers. Reporting these results, Klein and Azzi (2001) argued that there was no need to modify meta-stereotypes when addressing an in-group audience; but when addressing an out-group audience, Belgians modified the meta-stereotypes in a favorable direction so as to protect their social identity. It is also very likely that the Belgians do so to avoid negative intrapersonal psychological consequences as discussed above.

However, in contrast to attempting to disconfirm meta-stereotypes, people may also behave *in accordance with* meta-stereotypes, depending on the intergroup context and what can be gained from doing so. For example, women endorse more positive meta-stereotypes when in the context of dating a man than when working with them, and women intend to behave more meta-stereotypically if they like the man they are going to date(Koudenburg & Gordijn, 2011). This intention to confirm meta-stereotypes behaviorally may lead to dangerous consequences. Dutch Moroccan teenagers who hold prejudice against non-Moroccan Dutch and believe that they are personally negatively stereotyped by

them are willing to legitimize criminal behaviors that go along with their negative meta-stereotypes (Kamans, Gordijn, Oldenhuis, & Otten, 2009).

A Novel Intergroup Setting

Many studies on meta-stereotypes have focused on interracial interactions, starting with the earliest (on blacks' meta-stereotypes of whites; Sigelman & Tuch, 1997), but psychological groups are not limited to those that can be distinguished by visible properties such as race or gender. This study conceptualized college identities as group memberships and examined a novel intergroup context: the Five College Consortium. The consortium includes five higher education institutions in Western Massachusetts: Amherst College, Hampshire College, Mount Holyoke College, Smith College, and University of Massachusetts, Amherst (UMass). See Table 1 for more detailed information on each school's founding year and student population.

There are a number of theoretically interesting characteristics of this novel, complex system that make it meaningful to conduct the study in this context. First, the Five College Consortium contains more than just one in-group and one out-group. Instead, the system is composed of five institutions with differing and dynamic dyadic status relationships. Among the four liberal arts colleges, Amherst College is the most privileged one, while UMass is the only big research university. Although Mount Holyoke College has the halo of being the nation's oldest women's college, Smith College is the largest, and has occupied a higher

Table 1

Key Information about Schools in the Five College Consortium

Institution	Nature	Founding Year	Student Population
Amherst	Liberal arts college	1821	1800
Hampshire	Liberal arts college	1970	1500
Mt. Holyoke	Women's liberal arts college	1837	2200
Smith	Women's liberal arts college	1871	2750
UMass	Research university	1863	21800

Note. The data are from the Five College Consortium website, retrieved from http://www.fivecolleges.edu

spot than Mount Holyoke in the US News and Word Report's rankings for quite a while. Hampshire College, an innovative and nontraditional institution, was founded by the other four less than half a century ago may be the least well known nationally.

Second, the group identity of being a student of one particular college is adopted after people enter adulthood, unlike racial or gender identity, which people are socialized into from birth. Racial and gender stereotypes are so embedded in the society that we grow up with them without even noticing, and it is difficult to manipulate aspects of these identities in a research study. I wished to study intergroup relationships that form when we are already adults not only to make it easier to manipulate intergroup perceptions but also in contrast to temporary group identities that researchers often create arbitrarily for research purposes only. College identities, in contrast, are "real" and psychologically meaningful to people.

Third, unlike many rival or hostile intergroup relationships, the Five College Consortium has a history of cooperation and still has many ongoing cooperative practices. The two women's colleges are members of the Seven Sisters, a group of elite women's colleges on the east coast. Hampshire College was founded by the other four institutions in 1970 as a product of a reexamination of liberal arts education. The institutions collectively formed the Five College Consortium in 1965 to share educational and cultural resources. For example, students can easily register for courses at the other institutions without extra fees

(see Table 2 for cross enrollment data from 2010-2011), and borrow books from libraries of the other schools. They often go to events and parties at another college, and inter-collegiate shuttle buses make commuting very convenient. Recently, Hampshire College, Mount Holyoke College, and Smith College set up a shared campus police department. Therefore, students in the five schools have easy access to the other campuses and frequent contact with students from other institutions. This cooperative history makes it possible to ask whether intergroup conflict is a necessary condition for negative meta-stereotyping and its effects to emerge in the ways that the literature has documented to date.

The Current Studies

The current project was divided into two studies, with different emphases in each. The purpose of study 1 was to explore and analyze the source of meta-stereotypes and to generate stimulus materials for study 2. As I detail below, it is possible that humans acknowledge meta-stereotypes to the extent that they serve certain functions or needs. The purpose of study 2 was to carry out a functional analysis of meta-stereotypes in the Five College Consortium. Because these two studies had different foci, I wrote about them separately with a more specific introduction at the beginning of each.

Table 2

Five College Course Cross Enrollments 2010-2011

Institution	Number of Enrollments[a]	Number of Seniors[b]	Percentage of Seniors[c]
Amherst	598	270	56
Hampshire	1972	286	92
Mount Holyoke	1225	391	69
Smith	859	326	48
UMass	904	436	9

Note. The data are from the *Five Colleges, Incorporated Annual Report 2010-2011,* edited by K. Kennedy, 2011, retrieved from https://www.fivecolleges.edu/consortium/publications/files

[a]Number of enrollments leaving from each college.

[b]Number of seniors taking at least one course at another institution in four years.

[c]Percentage of seniors taking at least one course at another institution in four years.

STUDY 1: SOURCE OF META-STEREOTYPES

Study 1 aimed to uncover the origins of meta-stereotype content in the Five-College context. In this section, I first review two important theories arguing that social structure is a source of stereotypes and then speculate on the possibility that meta-stereotypes can have the same source. Then I turn to another potential source of meta-stereotypes: *auto*-stereotypes. Finally, I end with two hypotheses about the source of meta-stereotypes.

Social Structure as a Source of Stereotypes

A notable fact about stereotypes is that their content is well known regardless of personal contact with members of the stereotyped groups (Devine, 1989; Katz & Braly, 1933). Where, then, does stereotype content come from? An early view of stereotype content is that it reflects at least a "kernel of truth" about members of the stereotyped group. Actual group differences do exist and these differences are reflected to some degree in stereotypes. However, group differences are not the origin of prejudices, but rather prejudices usually lead to stereotypes. Because out-groups tend to be disliked, group differences are usually viewed in a negative light. Therefore, except for accurate group differences, stereotypes are always partially inaccurate (Campbell, 1967).

Recent researchers have proposed some alternative views about the sources of stereotype content. Two of the most important models in this regard are the stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002) and "image

theory" (Alexander, Brewer, & Herrmann, 1999), both of which hold that stereotype content derives from structural relationships between groups. The stereotype content model holds that people use two dimensions to stereotype out-groups: competence and warmth. The competence dimension includes qualities like competent, confident, independent, competitive, and intelligent. The warmth dimension includes qualities like tolerant, warm, good natured, and sincere. These two are not necessarily correlated; out-groups can be high on one dimension and low on the other. For example, housewives are stereotyped as high on the warmth dimension but low on the competence dimension, while Asians are usually stereotyped as very competent but lacking warmth (Fiske et al., 2002).

Furthermore, social status and inter-group competition, especially perceived social status and inter-group competition, is the key predictor of where stereotypes are located on the competence-warmth coordinate. High-status out-groups are usually stereotyped as higher on the competence dimension than low-status out-groups, and out-groups in competition with in-groups are usually stereotyped as lower on the warmth dimension than non-competing out-groups (Fiske et al., 2002).

Similarly, "image theory" argues that stereotypes result from intergroup relationships, including relative group power, relative group social status, and the compatibility of the two groups' goals (i.e., whether the two groups have competitive or cooperative goals). Instead of locating stereotypes on two dimensions, "image theory" divides stereotypes into four major prototypes

(images) of the out-group: ally, enemy, dependent, and barbarian. The ally image is a result of an intergroup relationship characterized by equal status and capacity, and compatible goals. The enemy image comes from an intergroup relationship with equal status and capacity, but incompatible goals. Allied forces and enemy troops in wartime can be easily mapped onto these two images. Thirdly, a weaker, lower-status out-group with an incompatible goal with the in-group will lead to a dependent image. A typical example is the colonial countries in colonial time. In contrast, a lower-status but stronger out-group possessing an incompatible goal will lead to a barbarian image. Viking pirates are a good example of a barbarian out-group (Alexander, Brewer, & Herrmann, 1999).The difference between the two models is that the stereotype content model incorporates the power factor into the social status predictor, while "image theory" attributes competitive intergroup relationships mainly to compatibility of group goals. However, both theories share the core insight that the organization of the intergroup system – the structural relationships between groups – serve as a key determinant of stereotype (image) content.

Social Structure as a Source of Meta-stereotypes

Similar to stereotypes, meta-stereotypes are also relational in nature, perhaps even more relational than stereotypes. In forming a meta-stereotype, one has to make two judgments at the same time: one about the out-group and one about the in-group. Therefore, one needs to have some knowledge regarding the

inter-group relations. Consequently, I hypothesized that information about social status and inter-group competition was a possible source of *meta*-stereotypes.

This reasoning further implies that meta-stereotype content may fit well with the stereotype content model, and thus provides a practical model to test the hypothesis. I explain the predictions in detail as follows. The perceived social status of a group may predict where its meta-stereotype content locates on the competence dimension. Members of a low-status group are likely to infer that they are perceived as less competent by out-groups. Members of a high-status group are likely to believe that out-group members perceive them as more competent. For example, UMass students may believe that they are perceived as incompetent if they are believed to be lower in status within the Five College Consortium. Amherst students are likely to believe that students from other colleges perceive them as very competent, if Amherst is believed to be higher in status within the Consortium. Please note that this example does not necessarily reflect the actual perceptions of status or (meta-)stereotype content between these colleges; part of the goal of this project is to assess these relationships empirically.

Likewise, perceived inter-group competition may predict the level of warmth of a group's meta-stereotype. If two groups are in competitive relationship, the in-group will probably think the out-group members perceive them as hostile and not warm. If two groups share a cooperative relationship, they will probably think they appear warm and helpful to the other group. For example, Smith students may believe that they are perceived as snobby, if Smith is believed

to be in competition with other colleges. Mount Holyoke students may believe that they are perceived as friendly, if Mount Holyoke is believed not to be in competition with other colleges.

Following this logic, I expected to observe a positive correlation between a college's social status and the competence level reflected in its meta-stereotypes, and a negative correlation between a college's involvement in inter-group competition and the warmth level reflected in its meta-stereotypes. Such a pattern would imply that social status and inter-group competition information is being taken into account. Findings following this hypothesis would contribute to the literature of meta-stereotypes and stereotypes as well, indicating that the two share the same source (social status and inter-group competition) at least in part -- that we not only take intergroup relationships into consideration when we form images of out-groups, but also use them to inform knowledge of our own groups.

Auto-stereotypes as a Source of Meta-stereotypes

Meta-stereotypes are ultimately judgments about ourselves. Therefore, another possible source of meta-stereotypes is auto-stereotypes, our own beliefs about our in-groups. Auto-stereotypes are usually not exactly the same as the actual stereotypes held by out-groups. In fact, research shows that the two may differ substantially, and that the overall favorability of auto-stereotypes also varies substantially across groups. In a study on five English-speaking countries, Nigerians were found to have very positive auto-stereotypes and consistently

rated themselves more favorably than others rated them. However, Americans reported more negative auto-stereotypes than their actual stereotypes. Canadians and Australians viewed themselves generally the same as out-groups viewed them (McAndrew et al., 2000). The discrepancy between auto-stereotypes and stereotypes is likely to occur on the warmth aspect. Chinese and Japanese both have likable and warmer auto-stereotypes than how they are viewed by each other. But they both agree that Japan is more competent than China (Kashima et al., 2003). It is unclear how systematic discrepancies emerge between auto-stereotypes and actual stereotypes of one group, but one possible explanation for individual differences in perceived auto-stereotypes is that people who identify strongly with their nationalities tend to have more positive auto-stereotypes of their own national groups than low identifiers do (Matera, Giannini, Blanco, & Smith, 2005; Nigbur & Cinnirella, 2007).

Research shows that our ideas of how other people view us as individuals are based more on self-perceptions than real feedback from others (Chambers, Epley, Savitsky, & Windschitl, 2008; Kenny & DePaulo, 1993). These findings are similar to a much larger literature on egocentric social perception: in trying to understand what others think and know, we usually "anchor" on what *we* think and know, and have a hard time adjusting sufficiently away from that anchor (Royzman, Cassidy, & Baron, 2003). Applied to the collective level, this reasoning suggests that meta-stereotypes may derive from "knowledge" of our own groups, rather than real feedback from out-groups. It is possible that we rely

too much on our auto-stereotypes as a reference point, and project the content onto out-groups' perceptions, resulting in inaccuracies (systematic biases) in the direction of our collective self-perceptions. For example, students from a small liberal arts college may believe that they are viewed by others as having strong critical thinking abilities because they themselves think that they are well trained by the college education. However, out-groups may not have access to that information and do not perceive these students this way. In this case, the students are projecting their own knowledge inaccurately to out-groups' perceptions.

This hypothesis may seem to be undermined by the observation that auto-stereotypes are usually positive (Nigbur & Cinnirella, 2007) while meta-stereotypes are often negative, especially when there is a tense inter-group relationship (Owuamalam & Zagefka, 2011). Nonetheless, it is still possible that auto-stereotypes and meta-stereotypes may have overlapping content, given that they are both representations of the in-group and are both important components of our social image (Rodriguez Mosquera, Uskul, & Cross, 2011). Research also shows that auto-stereotype valence (positive vs. negative) can be influenced by past inter-group conflicts. Chinese who perceive the past Sino-Japan conflicts as important have more negative auto-stereotypes than those who perceive the conflicts as not so important do (Kashima et al., 2003). This finding indicates that, although auto-stereotypes are group members' judgments about their in-group, they still seem to have an intergroup component.

There have been only two studies that have assessed auto-stereotypes and meta-stereotypes simultaneously. The previously mentioned study on Dutch Moroccan teenagers assessed auto-stereotypes only to make sure that negative meta-stereotypes like criminal behaviors were not prototypical (Kamans et al., 2009). The other study focused on only two dimensions (sociability and individuation). Asian Americans believe that they are more sociable than how other people think they are, while European Americans think they are less willing to make themselves distinct as an individual in a social context than what other people believe to be true (Chu & Kwan, 2007).

None of the past studies has involved a comprehensive comparison between auto-stereotypes and meta-stereotypes. Therefore, it was part of this study's goal to examine the relationship between the two and assess whether auto-stereotype content is a plausible source of meta-stereotype content. I expected to observe people relying on how they view their in-group to inform their meta-stereotypes. In other words, I expected to find overlapping content in meta-stereotypes and auto-stereotypes. However, mere overlap is not enough to support a causal relationship. Because discrepancies often occur between auto-stereotypes and stereotypes as discussed above, if I could find discrepancies between the overlapping traits and the stereotype content, this would be stronger evidence that the overlapping traits were indeed projections from auto-stereotypes. For example, Mount Holyoke students may believe that they are perceived as competent by students from other colleges because they see themselves as competent. If other

colleges do not think Mount Holyoke students are competent, we may conclude that Mount Holyoke students projected their own perceptions of being competent onto other colleges' perception. In this case, Mount Holyoke students' meta-stereotype of being competent is a projection from their auto-stereotype.

Hypotheses of Sources of Meta-stereotypes

In summary, I tested two ideas about the possible source of meta-stereotypes. First, I hypothesized that meta-stereotypes come from social status and inter-group competition between the colleges (hereafter referred to as "in-group college" and "out-group college"). I used the stereotype content model to test a) if perceived social status of the college predicts the corresponding meta-stereotype on the competence dimension; b) if perceived competition between the out-group colleges and the in-group college predicts the level of warmth of the corresponding meta-stereotype. If neither of the predictions is supported, then I will conclude that social status and inter-group competition are not a source of meta-stereotypes.

Second, I hypothesized that an in-group college's auto-stereotype content is another source of meta-stereotype content. I expected to find some overlap between each college's auto-stereotype and meta-stereotype content. If no overlap is observed, then I will infer that auto-stereotypes are not a source of meta-stereotypes. If overlap does occur, I will further probe for discrepancies between the overlapping traits and the corresponding college's stereotype content; this will

provide stronger evidence of a projection from auto-stereotypes to meta-stereotypes. I expected both hypotheses to be supported to some extent, which means that meta-stereotype content should reflect a mixture of both sources.

Method

Participants and Procedure. I recruited participants at each of the five colleges' campus centers and dining halls. I asked them to provide auto-stereotypes of their own college and meta-stereotypes for one of the four out-group colleges (randomly assigned). Participants completed and returned the surveys on site, and were then compensated with candy. I recruited 60 currently enrolled students from each of the Five Colleges as participants, aiming to have 15 participants rate each of the out-group colleges, for a total of 60 per college. The choice to recruit 15 per condition per college was not entirely arbitrary. Simmons, Nelson, and Simonsohn (2011) recommended at least 20 participants per condition where a priori power analyses are not possible (as in this case); I suspected that it might be difficult to recruit so many participants, so I aimed for 15.

The response rate was 97%: three participants did not return the survey (one from Hampshire and two from Mount Holyoke), and six participants did not complete the survey (one from UMass, one from Hampshire, and four from Smith). Twenty-five participants understood the questions incorrectly or wrote irrelevant answer(four from Amherst, six from Mount Holyoke, three from Smith,

five from Hampshire, and seven from UMass). Because I wanted participants to be able to finish surveys quickly and free from possible feelings of anxiety, I did not ask any demographic questions. Therefore, no other information regarding participants could be provided. In total, I received 266 valid surveys: 56 from Amherst, 52 from Mount Holyoke, 53 from Smith, 53 from Hampshire, and 52 from UMass.

Meta-stereotype nomination. Participants were asked to answer an open-ended question adapted from a previous study of meta-stereotypes (Owuamalam & Zagefka, 2011): "Please think about the impressions that [e.g., Smith] students might hold about [e.g., Mount Holyoke] students in general. Please list about 3-5 TRAITS in the space below." After the open-ended question, participants rated on a Likert scale how accurate they thought the aforementioned view was (1 = not at all, 7 = very accurate).

Auto-stereotype nomination. Participants were then asked to answer a similar open-ended question: "Please think about the impressions that [e.g., UMass] students might hold about other [e.g., UMass] students in general, and again list 3-5 TRAITS in the space below. Note: Feel free to repeat what you just wrote for the previous question. The answer to this question can be exactly the same, entirely different, or a combination of both." After that, participants rated on a Likert scale again how accurate they thought the aforementioned view was (1 = not at all, 7 = very accurate).

Stereotype nomination. The stereotypes of each of the Five Colleges were collected in an earlier study (Carbone, 2012). A total of 79 participants performed a similar task of providing 3-5 traits for each out-group college.

Measures of social status and inter-group competition. This set of data was collected in Study 2 (for detailed participant demography, see Method section of Study 2). Participants were asked to rate the accuracy of items describing perceived status and perceived inter-group competition of students from the out-group colleges on a Likert scale (1=Not at all, 7=Extremely). The statements were developed from the status and competition scales used to test the stereotype content model (Fiske et al., 2002). The status scale includes two statements: "The jobs typically achieved by [e.g., Amherst] students are prestigious" and "[e.g., Smith] students have been economically successful after graduation." The competition scale also includes two statements: "If [e.g., UMass] students get special breaks (such as preference in hiring decisions), this is likely to make things more difficult for [e.g., Mount Holyoke] students" and "Resources that go to [e.g., Hampshire] students are likely to take away from the resources of [e.g., Mount Holyoke] students." Participants also read the following instruction before they rated each out-group college on each statement: "Please answer this page to the best of your knowledge. Note that we are not interested in your personal beliefs, but in how you think they are viewed by others" (i.e., how out-group college students were viewed by other in-group members). By adding this

instruction, I tried to relieve participants' social anxiety and obtain a more honest answer from them.

Results

Correlation between meta-stereotypes and social status and inter-group competition. For each college, I calculated a score of its social status within the system (social status predictor) and a score of its competition with out-group colleges (competition predictor). First, I collapsed the two statements of the social status scale (see Table 3 for reliability of the social status scales). Then I averaged across the four colleges that rated the target college. For example, to obtain a social status predictor for Amherst College, I averaged across the other four colleges' ratings on Amherst College's social status. I used the same procedure to produce a competition predictor for each college (see Table 4 for reliability of the competition scales; see Table 5 for the descriptive statistics).

To obtain a competence score and a warmth score for each college's meta-stereotypes, I first had an independent sample of participants (N=15 students at Amherst College) rate all the traits that appeared in the five colleges' meta-stereotypes in terms of how much they were associated with warmth and competence. They answered the following question on a Likert scale (1=Very incompetent, 5=Very competent): "To what extent is each trait associated with COMPETENCE?" Then I averaged across the competence rating of each meta-stereotype trait to get a competence score for each college. I used the same

Table 3

Reliability (Cronbach's Alpha) of Social Status Scale by College

α \ Rated by	Amherst	Hampshire	Mt. Holyoke	Smith	UMass
Amherst	-	.62	.84	.63	.70
Hampshire	.71	-	.75	.65	.79
Mt. Holyoke	.77	.58	-	.74	.78
Smith	.72	.46	.64	-	.60
UMass	.68	.82	.73	.68	-

Table 4

Reliability (Cronbach's Alpha) of Competition Scale by College

Rated by / α	Amherst	Hampshire	Mt. Holyoke	Smith	UMass
Amherst	-	.58	.68	.77	.34
Hampshire	.35	-	.74	.59	.43
Mt. Holyoke	.35	.58	-	.64	.40
Smith	.41	.62	.65	-	.43
UMass	.58	.54	.72	.75	-

Table 5

College Social Status, Competition, Competence, and Warmth Score

	Status		Competition		Competence		Warmth	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Amherst	6.08	.95	4.01	1.76	3.51	.63	2.42	.48
Hampshire	3.71	1.10	2.96	1.32	2.16	.48	2.70	.29
Mt. Holyoke	4.64	.86	2.84	1.50	3.15	1.01	3.00	.72
Smith	5.36	.84	4.09	1.64	3.54	.87	2.65	.62
UMass	3.86	.90	1.97	1.49	2.22	.51	2.89	.23

procedure to produce a warmth score for each college (see Table 5 for the descriptive statistics).

In work on stereotype content (Fiske et al., 2002), social status emerges as the predictor of competence, whereas inter-group competition emerges as the predictor of warmth. I used Pearson's correlations to see if social status and inter-group competition predict competence and warmth, respectively, of *meta*-stereotypes as well. Social status was strongly correlated with the competence level of a college's meta-stereotypes, $r = .93$, $p = .02$. Competition was negatively correlated with the warmth level of a college's meta-stereotypes, $r = -.82$, $p = .09$. As predicted, the other two pairs of correlations (i.e., social status with warmth and competition with competence) were not significant (see Table 6). These results parallel the correlations reported by Fiske et al. (2002) with respect to stereotypes. Therefore, my hypothesis that social status and inter-group competition were a source of meta-stereotype content was supported.

Quantifying agreement and disagreement about the content of the meta-stereotypes and auto-stereotypes. To quantify the level of consensus or lack of consensus in the traits nominated as part of the meta-stereotypes and auto-stereotypes, three coders coded the responses independently. First, each coder alphabetized the traits. Next, each coder grouped the traits with same or very similar meanings into one cluster (e.g., one coder put "smart" and "intelligent" together because she inferred that participants really meant the same thing – not a nuanced distinction – but distinguished "rich" from "preppy").

Table 6

Correlations between traits and predictors

	Competence		Warmth	
	r	*p*	*r*	*p*
Status	.93	.02	-.67	.22
Competition	.77	.13	-.82	.09

Coders then ranked the clusters from large to small in terms of the number of traits each cluster has, and added up the number of items within each cluster until it reached half of the total number of traits. This method of quantifying disagreement was developed by Katz and Braly (1933) and was reported in their study of Princeton students' racial and national stereotypes (Katz & Braly, 1933).

The number of clusters employed to reach half the total number of traits was then recorded as the disagreement index for the particular category. The specific clusters falling in this top 50% were taken as the content of the auto-stereotype or meta-stereotype for the college. For example, if Amherst College participants wrote 180 traits for their auto-stereotypes in total, the number of traits each clusters held needed to add up to 90. If one coder came up with the following clusters: intelligent (contained 41 items), arrogant (19 items), preppy (11 items), ambitious (10 items), rich (10 items), athletic (8 items), and other clusters with fewer items, the clusters after "rich" (starting with "athletic") would not be included because the number of traits had already reached 91. Therefore, the resulting disagreement index of Amherst College students' auto-stereotype was 5, and their commonly held auto-stereotype content were intelligent, arrogant, preppy, ambitious, and rich.

Meta-stereotype disagreement index. Table 7 shows the disagreement indices of each college's meta-stereotypes (across all out-group colleges) that each coder obtained. Amherst College had the smallest disagreement score, which indicates that students from Amherst had the most

Table 7

Meta-stereotype Disagreement Indices Generated by Three Coders

College	CF	BY	JS	Mean
Amherst College	3	6	5	4.67
Hampshire College	5	5	5	5.00
Mount Holyoke College	6	9	8	7.67
Smith College	5	8	6	6.33
UMass	5	8	6	6.33

consensus about how they were stereotyped by students from other colleges. On the other hand, Mount Holyoke College had the largest disagreement score, which indicates that students in Mount Holyoke had the fewest agreements on how the out-group colleges stereotyped them.

Auto-stereotype disagreement index. Table 8 shows the disagreement indices of each college's auto-stereotypes that each coder obtained. Amherst College again had the lowest index, which indicated that students at Amherst had the most clearly defined idea about their own student body (it took the fewest traits to describe them). Hampshire College had the highest index, which indicated that students in Hampshire had the least consensus about how they viewed themselves. Overall, the auto-stereotype disagreement indices were larger than the meta-stereotype disagreement indices (except for Mount Holyoke College). This direction of difference (auto-stereotype > meta-stereotype) indicates that most participants believed that they had a more complicated image of their in-group than what they thought the out-groups had.

Overlap between meta-stereotypes and auto-stereotypes. I compared the lists of traits generated by the three coders, recording the traits that were shared by at least two lists. These shared traits were the final list of each college's meta-stereotype content. I used the same procedure to produce the final list of auto-stereotype content of each college (see Table 9 for the list).

Then I compared the list of meta-stereotypes with the list of auto-stereotypes, and counted the number of overlapping traits for each college. In

Table 8

Auto-stereotype Disagreement Indices Generated by Three Coders

College	CF	BY	JS	Mean
Amherst College	5	9	8	7.33
Hampshire College	8	12	10	10.00
Mount Holyoke College	7	10	10	9.00
Smith College	5	9	9	7.67
UMass	9	8	9	8.67

Table 9

Auto-stereotypes and Meta-stereotypes by College

College	Auto-stereotypes	Meta-stereotypes
Amherst	**Smart/intelligent**[a]	**Pretentious**
	Arrogant	**Smart**
	Preppy	**Rich**
	Ambitious/driven	**Preppy**
	Rich	**Snobby**
	Athletic	
	Pretentious	
Hampshire	Non-conformists/unorthodox	**Stoners/pot heads**
	Creative/artsy	**Hippies**
	Drug users/druggies	Lazy
	Smart	Smelly
	(Socially) active/involved/passionate	/questionable hygiene
	Liberal	Weird
	Hippies	
	Chill	
	Opinionated	
	Accepting	
	Unique	
Mt. Holyoke	**Smart/intelligent**	**Lesbians**
	Friendly	**Feminists**
	Hardworking	**Partiers**

[a]Bolded phrases are the overlapping traits shared by auto-stereotypes and meta-stereotypes.

	Liberal	Not as smart
	Lesbians	Desperate
	Feminists	**Smart**
	Party animals/likes to party/have fun	**Hardworking**
		Friendly
	Weird/geeky	Stuck-up
Smith	**Smart/intelligent**	**Smart**
	Ambitious/driven	**Lesbians**
	Lesbians	**Feminists**
	Friendly/caring	Hardworking
	liberal/open minded/politically correct	Stuck-up
	Overachieving	Snobby
	Feminists	
	Diverse	
UMass	**Partiers**	**Partiers**
	Diverse	Not (as) smart/dumb
	Hardworking	Crazy/wild
	Fun	No motivation
	Alcoholics/drunks	**Less/non-academic**
	Friendly	**Loud/obnoxious**
	Not studious/academically unmotivated	Poor/low income
	Loud	
	Studious	

order to quantify overlap, I divided the number of overlapping traits separately by the total number of auto-stereotype traits and the total number of meta-stereotypes traits (see Table 10 for scores and percentages).

Overall, some meta-stereotype content overlapped with some auto-stereotype content at all colleges in the Consortium, but the degree of overlap varied by college. Amherst participants had the highest level of overlap; 71.43% of their auto-stereotypes appeared in their meta-stereotype content, which comprised their entire meta-stereotype. In contrast, Hampshire participants had the lowest level of overlap: only 18.18% of their auto-stereotypes were found in their meta-stereotype content, which was fewer than half (40%) of their actual meta-stereotype. Smith and UMass participants also had relatively fewer overlapping traits (less than 50%), while more than half of Mount Holyoke's auto-stereotypes and meta-stereotypes overlapped with each other.

Discrepancies between overlapping traits and stereotypes. Recall that mere overlap between auto-stereotypes and meta-stereotypes is not enough to support a causal relationship. Discrepancies between the overlapping traits and the corresponding college's stereotype content will provide stronger evidence of a projection from auto-stereotypes to meta-stereotypes. I then proceeded with this analysis.

Three independent coders coded the stereotypes collected and reported by Carbone (2012) using the same procedure they coded the auto-stereotypes and meta-stereotypes and each obtained a list of traits by using the Katz and Braly

Table 10

Amount of Overlap between Auto-stereotypes and Meta-stereotypes

College	Number of Overlapping Traits	Percentage in Auto-stereotypes	Percentage in Meta-stereotypes
Amherst	5	71.43%	100.00%
Hampshire	2	18.18%	40.00%
Mt. Holyoke	6	75.00%	66.67%
Smith	3	37.50%	50.00%
UMass	3	33.33%	42.86%

(1933) method of disagreement quantification. I then used the same procedure described above to produce the final list of stereotypes of the five colleges. Finally, I compared the list with the overlapping traits between auto-stereotypes and meta-stereotypes I obtained above (i.e., the bolded traits in Table 9).

As Table 11 shows, discrepancies between stereotypes and overlapping traits between auto-stereotypes and meta-stereotypes occurred in all colleges except Hampshire. Mount Holyoke gave the strongest demonstration of how much these overlapping traits may diverge from stereotypes (I will take up this again in Discussion). Therefore, considering the overlap between auto-stereotypes and meta-stereotypes and the discrepancies between the overlap and stereotypes together, my hypothesis that auto-stereotypes were another source of meta-stereotypes was supported, although to different extent at different colleges.

Overlap between meta-stereotypes and stereotypes. The meta-stereotype traits that did not overlap with auto-stereotypes clearly were not projections from auto-stereotypes. To further examine whether they were produced from social status and inter-group competition, I compared the rest of the meta-stereotypes that did not overlap with auto-stereotypes with the stereotype traits that did not overlap with auto-stereotypes either. All colleges except Amherst (which did not have non-overlapping traits) had one or two overlapping traits (see Table 12 for more details). This was further support for my hypothesis that social status and inter-group competition were a source of meta-stereotypes.

Table 11

Discrepancies between Overlapping Traits and Stereotypes

College	Overlapping Traits	Stereotypes
Amherst	**Pretentious**[a]	Wealthy/rich
	Smart	Arrogant
	Rich	Preppy
	Preppy	Smart
	Snobby	Snobby
Hampshire	Stoners/pot heads	Stoners
	Hippies	Hippies
		Strange/weird
		Dirty/ questionably groomed
Mount Holyoke	**Lesbians**	Feminine/girly
	Feminists	Desperate/ slutty
	Partiers	Rich
	Smart	Not smart/ dumb
	Hardworking	Snobby
	Friendly	Don't know
		Daphne[b]
Smith	**Smart**	Lesbians
	Lesbians	Feminists
	Feminists	Hardworking/ studious
		Butch
		Relaxed/ laidback

[a] Bolded phrases are the traits that did not appear in stereotypes.

[b] Daphne refers to the cartoon character in Scooby-Doo.

UMass	Partiers	Partiers
	Less/non-academic	Not smart/ dumb
		Bro
	Loud/obnoxious	Lazy/ unmotivated

Table 12

Overlap Between Meta-stereotypes and Stereotypes (Excluding Auto-stereotype Traits)

College	Meta-stereotypes Not Overlapping with Auto-stereotypes	Stereotypes Not Overlapping with Auto-stereotypes
Amherst	—	—
Hampshire	Lazy **Smelly/questionable hygiene**[a] **Weird**	**Strange/weird** **Dirty /questionably groomed**
Mt. Holyoke	**Not as smart** **Desperate** Stuck-up	Feminine/girly **Desperate/slutty** Rich **Not smart/dumb** Snobby Don't know Daphne
Smith	**Hardworking** Stuck-up Snobby	**Hardworking/studious** Butch Relaxed/ laidback
UMass	**Not (as) smart/ dumb** Crazy/wild **No motivation** Poor/low income	**Not smart/dumb** Bro **Lazy/unmotivated**

[a]Bolded phrases are the traits that overlap.

The meta-stereotype traits that did not match directly with stereotypes nonetheless contained straightforward social status and inter-group competition information. Both Hampshire's meta-stereotype of being "lazy" and UMass being "poor" were typical traits of low social status groups. Smith had a high status (next-highest relative to Amherst) within the system; therefore their meta-stereotype included traits like "stuck-up" and "snobby" – both of which signal higher status. Being the group in the middle of the system, Mount Holyoke may have generated the trait "stuck-up" partly to balance the trait "not as smart." They knew that they had a lower status relative to Amherst and Smith. At the same time, they included the trait "stuck-up" to reflect how they thought they were viewed by lower-status groups (i.e. Hampshire and UMass).

Relational phrases. Another phenomenon worth noticing is that when asking about meta-stereotypes, some participants answered with relational phrases such as "better academic preparation in high school," "more liberal/progressive," "less academically driven," "not as smart as Smith," "similar to themselves in wanting a liberal arts education", etc. This is a direct evidence that participants were thinking from an intergroup perspective, or even taking the whole Five College social system into consideration.

Table 13 shows how many relational words came up in each college's meta-stereotypes. Students from Amherst and Hampshire College did not use relational words very often. When Amherst students did use such words, they were all positive or neutral comments (e.g., "better than others"; "similar to

Table 13

Number and Percentage of Relational Phrases in Meta-stereotypes

	Relational Phrases	
	N	%
Amherst	4	2.1
Hampshire	3	1.6
Mount Holyoke	20	12.5
Smith	12	6.6
UMass	28	16.9

themselves in wanting a liberal arts education"). In contrast, Hampshire students used mostly negative relational phrases (e.g., "not as smart"). Students from Mount Holyoke and Smith Colleges used more relational phrases when they addressed each other than when they talked about meta-stereotypes of other colleges. More than a third of the traits were relational when Mount Holyoke students considered how they were viewed by Smith students, and most of the content was either negative or neutral (e.g., "less smart than Smith students"; "we were generally less feminist"). Likewise, Smith students used mostly positive or neutral relational words when addressing Mount Holyoke (e.g., "more liberal/progressive"; "probably consider Mt. Holyoke and Smith to be mostly similar"). Among the five colleges, UMass students used relational words in meta-stereotypes the most, and the content was almost uniformly negative or neutral at best. The negative relational phrases largely focused on two themes: "not as smart" and "less money."

Moreover, a few participants even used relational words when providing auto-stereotypes. This could be partly explained by the fact that the survey asked about auto-stereotypes right after the question on meta-stereotypes, so they were thinking in a relational framework. But it is still noteworthy that UMass students used the same negative relational traits (e.g., "not as smart") in their auto-stereotypes. Similarly, Mount Holyoke students also wrote negative relational traits (e.g., "not as good in some way") for their auto-stereotypes. This suggested that relational concepts occurred spontaneously not only in meta-stereotypes, but

also in auto-stereotypes, implying that our collective self-concept was oftentimes context-based.

In short, these relational phrases in meta-stereotypes could be considered as supporting evidence for the hypothesis that social status and inter-group competition were a source of meta-stereotypes. The valence of these traits also partly corresponded to the perceived social status of each college within the Consortium.

Accuracy scale. Figure 1 shows how accurate auto-stereotypes and meta-stereotypes of each college were perceived by participants. A one-way between subjects ANOVA was conducted to compare the perceived accuracy of auto-stereotypes among the five colleges. There was a significant difference between different colleges, $F(4, 259) = 4.85$, $p < .001$. Post hoc comparisons using the Tukey HSD test indicated that the mean accuracy of Hampshire's auto-stereotypes ($M = 5.29$, $SD = 1.23$) was significantly higher than both the mean accuracy of Amherst's auto-stereotypes ($M = 4.66$, $SD = 1.16$) and that of UMass' ($M = 4.58$, $SD = 1.23$). The mean accuracy of Smith's auto-stereotypes ($M = 5.33$, $SD = .94$) was also significantly higher than the mean accuracy of both Amherst's auto-stereotypes and UMass' auto-stereotypes. The other colleges did not perceive the accuracy of their meta-stereotypes significantly different from each other. Overall, participants believed that their auto-stereotypes were accurate (all above the mid-point 4). Hampshire and Smith College students believed that their auto-stereotypes were more accurate than Amherst and UMass students did.

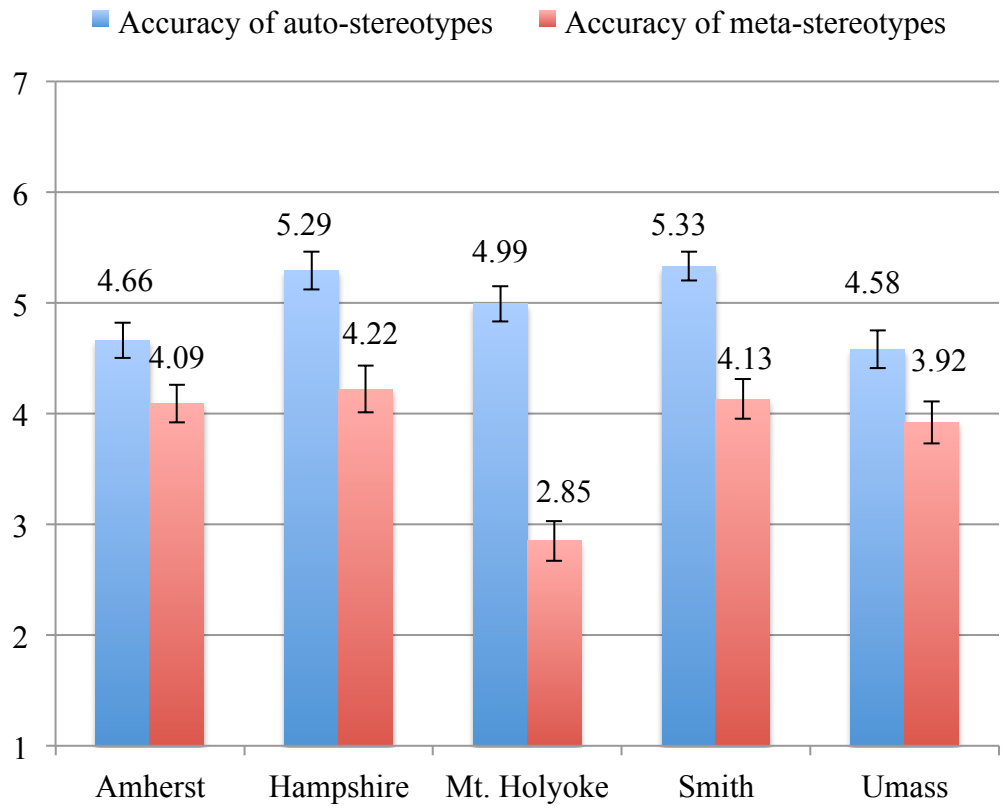

*Figure 1.*Perceived Accuracy of Auto-stereotypes and Meta-stereotypes by College.

Participants from all five colleges believed that their meta-stereotypes were significantly less accurate than their auto-stereotypes were (see Table 14 for the comparisons). None of the perceived accuracy scores of meta-stereotypes were significantly above the mid-point of the scale. Mount Holyoke College's perceived accuracy of their meta-stereotypes was significantly below the mid-point, $t(52) = -6.49$, $p < .001$. Therefore, none of the colleges perceived their meta-stereotypes to be accurate. Moreover, Mount Holyoke students believed that the out-group colleges held inaccurate stereotypes about them.

Discussion

Both my hypotheses of the source of meta-stereotypes were supported. Social status highly correlated with the competence of meta-stereotypes; inter-group competition negatively correlated with the warmth of meta-stereotypes. All colleges' auto-stereotype content overlapped with their meta-stereotype content to some extent. A majority of the colleges showed discrepancies between these overlapping traits and actual stereotypes. The meta-stereotype traits that did not overlap with auto-stereotypes either matched stereotypes directly or related to social status closely.

The finding that students from four colleges (without Mount Holyoke College) had larger auto-stereotype disagreement indices than meta-stereotype disagreement indices echoed a larger literature on "egocentric social categorization": we tend to perceive our in-group as a heterogeneous aggregate

Table 14

T-test between Accuracy Ratings of Meta-stereotypes and Auto-stereotypes by College

	t	*df*	*p*
Amherst	2.46	107.69	.02
Hampshire	3.95	96.13	< .001
Mount Holyoke	9.07	101.52	< .001
Smith	5.37	98.89	< .001
UMass	2.57	102.90	.01

with different features, while out-groups are likely to be perceived as a relatively homogeneous entity (Simon, 1993). It thus follows that an out-group as a homogeneous entity cannot produce a rather complicated view of a heterogeneous in-group. Participants' tendency to over-simplify out-groups led to the simplification of their meta-stereotypes in comparison to their auto-stereotypes.

The correlation between social status and inter-group competition and the competence and warmth of meta-stereotype traits are in line with the findings of Fiske et al. (2002) on stereotypes. The correlation between social status and competence level of meta-stereotypes was close to the correlation for stereotype ($r = .98$, $p < .001$). The correlation between inter-group competition and warmth level of meta-stereotypes was even stronger than that of stereotype ($r = -.68$, $p < .001$). One difference between this study and Fiske and her colleagues' study is the way the competence and warmth scores were obtained. Fiske and her colleagues had participants rate on the same set of standard competence and warmth traits for all out-groups, but in this study, participants generated meta-stereotypes freely and each trait then gained both a competence and a warmth score. Therefore, the competence and warmth scores obtained in this study were closer to real life situation than that of Fiske et al. (2002), and thus rendered the resulting correlation more meaningful.

Mount Holyoke had many more auto-stereotype traits inaccurately represented in its meta-stereotype than all other colleges had. All the overlapping traits between auto-stereotypes and meta-stereotypes were not part of their

stereotypes, and thus were all inaccurate. Because participants generally had more diverse auto-stereotypes than their meta-stereotypes, the overlapping traits counted for a smaller proportion in auto-stereotypes than in meta-stereotypes. But this was not the case for Mount Holyoke. Mount Holyoke was the only college that had a more diverse meta-stereotype than its auto-stereotype, suggesting that they had a more vague and less cohesive idea about how out-group colleges viewed them than they viewed themselves. The fact that there was not much meta-stereotypes overlap with their stereotypes further confirmed this. Therefore, Mount Holyoke students had to rely heavily on their own perception about their group to form two-thirds of their meta-stereotype.

There are two possible explanations to the large discrepancy between Mount Holyoke's meta-stereotypes and stereotypes. First, Mount Holyoke College is the most remote and "reclusive" institution in terms of the distance and accessibility to other colleges in the Five College Consortium. Therefore, Mount Holyoke students might experience a harder time getting information about their peers in other colleges. However, this explanation is not supported by the data that I collected in Study 2 (described below) on their level of contact with students from out-group colleges. Mount Holyoke students had a medium level of contact with out-group colleges in comparison with other schools (see Figure 2 for more detail).

A second explanation is that because Mount Holyoke College is in the middle of the social system (both in status and competition, see Table 4 for more

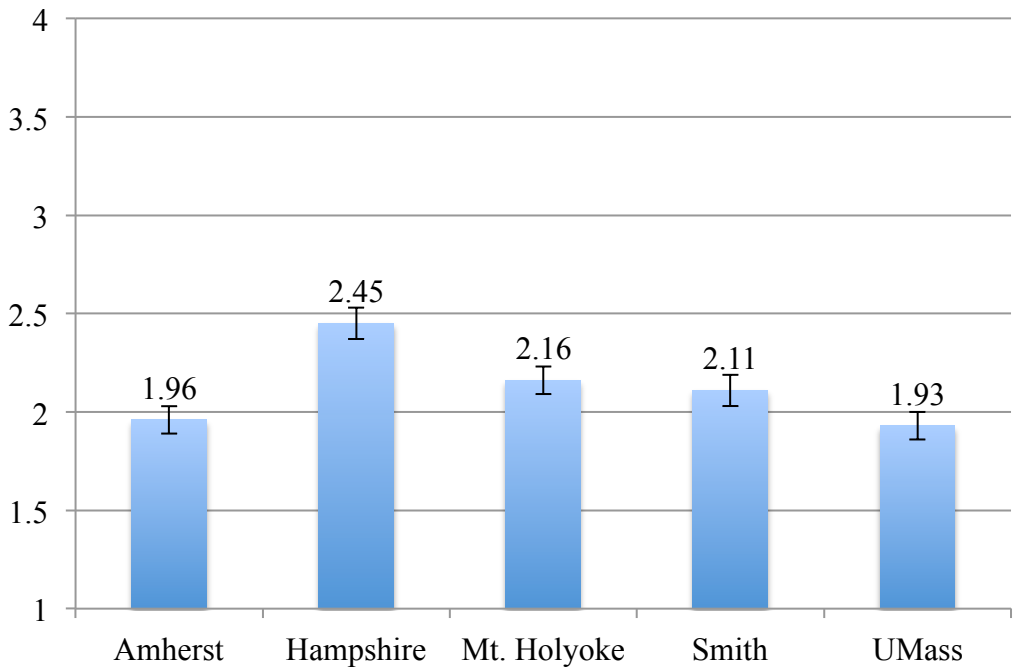

Figure 2.Level of Contact Students had with Out-group Colleges.

details), they were more ambivalent or uncertain about where exactly to locate themselves in the system. There is also more room for change in either direction when situated in the middle. Because it was harder to judge their distance from the out-groups, they had to rely more on their own knowledge rather than social status and inter-group competition information. This explanation was further supported in that Mount Holyoke students were the only group that explicitly perceived their meta-stereotypes as inaccurate (see Figure 1 for more detail). In other words, they believed that all the other colleges held inaccurate stereotypes about them. Therefore, they applied more auto-stereotypes when generating their meta-stereotypes.

In summary, social status and inter-group competition and auto-stereotype content were two important sources of meta-stereotypes. Groups of different social status integrated their auto-stereotypes into their meta-stereotypes accordingly.

STUDY 2: FUNCTION OF META-STEREOTYPES

Study 2 provides a functional analysis of meta-stereotyping. In this section, I first review the literature on functions of stereotyping. Then I discuss possible functions of meta-stereotyping based on one key theory, Brewer's (1991) model of optimal distinctiveness. Finally, I end this section with a hypothesis of functions of meta-stereotyping.

Functions of Stereotypes

William James (1931) famously argued that, "My thinking is first and last and always for the sake of my doing" (p. 333). In other words, we have mental representations to the extent that they help us navigate the world and meet our goals. Three major themes have emerged in this pragmatic approach to social cognition (Fiske, 1992). First, people are "good-enough" perceivers: they do not necessarily seek answers that maximize accuracy, efficiency, and adaptability at the same time. Second, people rely on simple and familiar models such as traits, stereotypes, and stories to make sense and meaning of the world. They perceive in this way in order to feel in control of and make predictions in social interactions. Third, people strategically choose their way of thinking according to their goals. The underlying principle through the three major themes is that perception is always goal-oriented.

Although stereotypes are a basic and universal form of mental representation, stereotyping is usually portrayed as intrinsically "bad" because it

involves an "overgeneralized assertion" about a group that is usually negative and "pernicious" (Snyder & Miene, 1994, p.34). However, more recent work suggests a more nuanced view, that stereotyping is actually built into human cognitive architecture – a morally neutral psychological tool that helps meaning-seeking human beings better manage the complex social world (Ashmore & Del Boca, 1981). In other words, stereotyping is prevalent because it is functional.

Which particular functions does stereotyping serve? Various taxonomies of core human social needs have been proposed. For example, according to Fiske (2003), people have five core social motives: belonging, understanding, controlling, enhancing self, and trusting. Another theory proposes that the motives that distinguish human beings from other animals can be organized into two groups: the comprehending and managing concerns (the desire to comprehend and to manage both our own and other people's inner thoughts) and the shared reality concerns (the desire to share with others our comprehension of the past, present, and future) (Higgins & Pittman, 2008). Clearly, we are driven by multiple social motives. A substantial literature affirms that stereotyping is powerful partly because it can help us meet *many* of the above-mentioned needs simultaneously. In other words, stereotypes are multiply functional.

A typical "functional analysis" is exemplified by the work of Snyder and Miene (1994), who argued that stereotypes serve three main functions. First, stereotypes help people reduce information to a size that can be processed by humans' limited cognitive capacity. By using the reduced information, people can

predict the social world more easily. Second, stereotypes are used to derogate out-group images and therefore help maintain or even enhance the self-esteem of in-group members. Third, by sharing stereotyped beliefs, people can better identify with and fit in with their in-groups.

Many others have accorded with Snyder and Miene in documenting evidence of not only these, but also other psychological functions of stereotyping. For example, stereotyping can help us feel at ease living within a system of group inequality, by "justifying" groups' placement at the top or bottom of the status hierarchy (Alexander, Brewer, & Herrmann, 1999; Jost, Kivetz, Rubini, Guermandi, & Mosso, 2005). People who believe that "the poor are happy" will perceive an unequal system to be more fair and legitimate than those who believe that "the poor are unhappy", and that is psychologically useful (Kay & Jost, 2003).

Similarly, with the stereotype content model, Fiske et al. (2002) argued that out-groups are stereotyped as high on one dimension and low on another because this perception is functional. For out-groups perceived as having low competence and high warmth, the mixed stereotype justifies their subordination to the in-group and encourages them to keep complying to the existing system. Stereotyping allows the in-group to secure their existing privileges and placates the disadvantaged out-groups by assigning them socially desirable traits. For out-groups perceived as having high competence and low warmth, the mixed stereotype justifies any action taken against the out-group. Stereotyping renders the action of resenting and socially excluding the out-groups as appropriate.

Therefore, stereotypes do not take root in social status and inter-group competitions by chance, but do so precisely because they are functional in maintaining and justifying the social status and inter-group competition. This also helps explain why, despite having negative valence most of the time, stereotypes are prevalent in every known social system and resist eradication.

Functions of Meta-stereotypes

Is *meta*-stereotyping functional as well, then? The pragmatic approach to social cognition – that we think in order to do – suggests that the answer must be yes. However, there has been little work to date asking precisely which socio-psychological needs are met by meta-stereotyping. The available data seem rather puzzling: if people perceive that out-groups hold negative stereotypes about them (i.e., hold negative meta-stereotypes), then that is contradictory to the standard perspectives that human normally try to maintain or even enhance their (collective) self-image. To put this puzzle in context, first I review some of those perspectives.

According to Fiske (2003), the motive of enhancing self is one of the five core social motives we have. In other words, people need a positive image of themselves. The self includes not just personal self-representations (e.g., I am not a mean person) but also collective self-representations (e.g., We are a smart, worthy group). In line with the idea that we need to "enhance" the collective self just as much as the personal self, people are more willing to identify themselves

as a prototypical group member when the group has a high social status. People strategically choose group memberships for positive identities (Burkley & Blanton, 2005). When facing a threat to group identity, people with high collective self-esteem are likely to engage in in-group-enhancing biases (Crocker & Luhtanen, 1990).

With meta-stereotypes, there is a seemingly counter-intuitive persistence of negative mental representations about in-groups. This phenomenon seems to imply that meta-stereotypes, despite their negative valence, must serve some important psychological or social function that cannot be easily fulfilled by other cognitive processes and takes precedence, at least partly, over the need for self-enhancement. The social identity approach (e.g., Turner, 1975) may shed some light on this; it holds that a dual motivation of "positive distinctiveness" characterizes people's relationship with their social groups. In other words, we would like to see our in-groups as not just positive, but also as different from out-groups. Therefore, holding a negative meta-stereotype may be comforting in that it underlines the message that the groups are, indeed, quite different.

Optimal Distinctiveness Model

The optimal distinctiveness model (Brewer, 1991), which builds on core insights from social identity theory, gives a more detailed explanation on the importance of group distinctiveness. According to this model, we have two contradictory needs that are constantly in tension, the need to belong versus the

need to feel distinctive (that we are unique and able to be individuated). A balance, or optimal distinctiveness, is reached when these two opposing needs are both relatively satisfactorily met. Brewer theorizes that group memberships can help us achieve this ideal level of distinctiveness. The utility of a particular group membership, in this regard, is mainly influenced by the group size and the clarity of boundary between groups. The smaller the group size, or the clearer the group boundary is, the more distinctive the social category is. However, if the group is too small, group members are likely to feel overly individuated relative to the belongingness provided by the group. Likewise, if the group size is too big, the need to belong can easily be met, but individuals are likely to feel that they are not distinctive among so many group members. Therefore, it is usually within groups of moderate size that optimal distinctiveness is achieved. Recent empirical work has confirmed these ideas about group size (Badea, Jetten, Czukor, & Askevis-Leherpeux, 2010).

Another way to achieve optimal distinctiveness is to meet the need to belong *within* a group, and to meet the need for distinctiveness between groups (Brewer, 1991). For example, members of a cult group can fulfill their need to belong by sharing the same beliefs and getting very involved in group activities together. At the same time, they feel very distinctive because their belief system is not shared by any out-group members. Thus, membership in a cult may be compelling to some partly because it helps us to achieve optimal distinctiveness.

Furthermore, optimal distinctiveness is not influenced by the evaluative implication of the group membership. In other words, as along as one can achieve optimal distinctiveness in a group, whether that group membership is valued or devalued by outsiders is not very important (Brewer, 1991). For example, although being a member of a cult group may be viewed negatively by the mainstream society, this factor is notoriously ineffective in stopping cult members from further involvement in the group. According to the optimal distinctiveness model, cult members may be willing to overlook outsiders' stigmatization of their group because the cult group helps its members achieve optimal distinctiveness.

Following this logic, it is possible that meta-stereotyping helps people achieve optimal distinctiveness via this between-groups pathway. As long as their in-groups are distinctive from out-groups, group members may not mind that the meta-stereotype content has a negative valence. Indeed, it is possible that negative content of meta-stereotypes promotes not only the need to feel distinct but also the need to belong by promoting people's commitment to the group. Many recent studies have supported an argument, known as the "rejection-identification model" (Branscombe, Schmitt, & Harvey, 1999; Jetten, Branscombe, Schmitt, & Spears, 2001), that perceiving widespread discrimination and stigmatization against one's group is (perhaps counter-intuitively) associated with an increase in identification and commitment to the group. Even negative meta-stereotyping, then, may not be as much of a puzzle as it appears at first, given its potential to "un-fix the pie" of needs to belong and to feel distinct.

Indeed, findings from a recent study supported this hypothesis. Kamans et al. (2009) found that some Dutch Moroccan teenagers were willing to legitimize criminal behaviors (i.e., perceive these behaviors as normal and not problematic) that they believed were part of the negative impressions the non-Moroccan Dutch people held about them. To explain these somewhat surprising findings, the researchers argued that the teenagers were willing (even eager) to confirm negative meta-stereotypes because such beliefs help to distinguish a valued in-group (Dutch Moroccans) from a despised out-group (non-Moroccan Dutch people). In other words, people sometimes negatively meta-stereotype their in-group (and may even confirm that meta-stereotype behaviorally) in order to reinforce the boundaries of their valued in-group identity. However, this study was not experimental, so no clear causal relationship between application of negative meta-stereotypes and the fulfillment of the need for distinctiveness has been demonstrated to date. Therefore, an additional goal of my project is to test the idea that people actively acknowledge and apply meta-stereotypes when they need their in-groups to be distinctive, even if the meta-stereotype content is largely negative.

Hypotheses

I hypothesized that individual application of meta-stereotypes helps fulfill our need for distinctiveness at the group level. This idea informs the following predictions about students' self-application of meta-stereotypes about their own

colleges. If students have achieved the need for distinctiveness at the group level, I expected to see them apply meta-stereotypes personally to feel that their college identity was distinctive among the five institutions. By experimentally threatening this need (i.e., creating heightened need for group distinctiveness), participants would apply more (negative) meta-stereotypes, and by experimentally fulfilling this need (i.e., creating reduced need for group distinctiveness), participants would apply less (negative) meta-stereotypes, relative to a control group. For example, when Mount Holyoke students feel that they are similar to students from the other four colleges, they may be more willing to think that they are seen as stuck-up (and other meta-stereotype traits) by other colleges; when Mount Holyoke students feel that they are a very distinctive student body within the Consortium, they may be less willing to think that they are seen as stuck-up (and other meta-stereotype traits) by other colleges, relative to a control group.

Method

Design. The experiment used a 3 (condition) x 5 (college) between-subjects design. The dependent variable was the individual application of meta-stereotypes.

Participants and Procedure. I recruited participants by putting up flyers on the five campuses. Participants could take a slip with a link to the online survey from the flyer. They were randomly assigned to the "heightened need" condition, the "reduced need" condition, or the control condition. As

compensation, participants could enter into a lottery for a $15 gift certificate (there were 30 certificates in total) to a local café of their choice. A total of 258 Five College students completed the survey. Table 15 shows demographic information for each college.

Materials. The online survey took approximately 10 minutes to complete. A separate version of the survey for each of the five colleges was generated on the basis of the data gathered from Study 1. The questions in the surveys were tailored to each college by inserting specific college names and using stimuli relative to that college from Study 1. Using the survey that Mount Holyoke students received as an example, materials appeared in the following order (see Appendix B for a complete survey for Mount Holyoke students):

Pre-measures of social structure. Recall that participants rated the status and inter-group competition of students from each college. Details are given in the Method section of Study 1 (above).

Randomization question. Participants were asked in which month they were born and were then randomly assigned to one of the three manipulation conditions: Those who were born in January through April were assigned to the control condition, those who were born in May through August were assigned to the "reduced need" condition, and the rest were assigned to the "heightened need" condition.

Manipulation of distinctiveness concerns. Participants read short vignettes to manipulate group distinctiveness concerns. I set up a scene involving

Table 15

Demographic Breakdown for the Five Samples

College	Gender	Race	Age	Class Year	Semesters Completed
Amherst (N = 51)	29 F[a] 21 M[b] 1 NR[c]	18 Asian /Asian-American 15 white 9 Hispanic/Latina /Latino 3 Black 3 mixed 2 NR	*M*=19.60 *SD*=1.60	26 FM[d] 9 SM[e] 8 JN[f] 7 SN[g] 1 NR	*M*=2.59 *SD*=2.24
Hampshire (N = 35)	19 F 10 M 1 O[h] 5 NR	18 white/Caucasian 4 Hispanic/Latina 4 mixed 2 other	*M*=20.37 *SD*=1.07	4 FM 11 SM 7 JN 8SN	*M*=3.92 *SD*=2.07

[a] "F" stands for "female."

[b] "M" stands for "male."

[c] "NR" stands for "not reported."

[d] "FM" stands for "freshmen."

[e] "SM" stands for "sophomores."

[f] "JN" stands for "juniors."

[g] "SN" stands for "seniors."

[h] "O" stands for "other."

		7 NR		5 NR	
Mt. Holyoke (N = 80)	71 F 3 O 6 NR	41 Caucasian /European/white 16 Asian/Asian American 8 multiracial 5 African-American/black 2 Hispanic/Latina 8 NR	*M*=20.34 *SD*=3.37	19 FM 25 SM 8 JN 22 SN 6 NR	*M*=3.25 *SD*=2.22
Smith (N = 42)	38 F 3 O 1 NR	27 white/Caucasian 6 Asian/Asian American 4 mixed 3 other 2 NR	*M*=20.54 *SD*=2.95	10 FM 10 SM 9 JN 12 SN 1 NR	*M*=3.70 *SD*=2.20
UMass (N = 49)	26 F 20 M 1 O 2 NR	37 white/Caucasian 7 Asian 2 mixed 1 other 3 NR	*M*=20.68 *SD*=1.85	5 FM 13 SM 17 JN 12 DN 2 NR	*M*=3.66 *SD*=2.28

peer evaluation by out-group college students in the vignette because research has found that people in a situation where out-group members could potentially evaluate them would activate more meta-stereotypes than those in a situation where no evaluation was involved would do (Vorauer, Hunter, Main, & Roy, 2000).

Previous researchers manipulated group distinctiveness concern by assigning participants into groups of different sizes. Big groups were used to heighten participants' need for group distinctiveness, and small groups were used to reduce their need for group distinctiveness (e.g. Badea et al., 2010; Brewer, 1991). However, since the college student bodies are all natural groups, I could not change the size of the actual groups. Although it is, in principle, possible to manipulate participants' *perception* of the size of their colleges, it may not render ideal effects either because four of the colleges are very close in size. Therefore, I did not manipulate the group size, but the clarity of group boundaries instead. In the "heightened need" condition, I emphasized the lack of group distinctiveness by making the Five Colleges appear to be the same to an outsider:

> A corporation that you really want to get in is coming to the Five-College area to recruit undergraduates. Luckily, you make it to the group interview. In your session, there are ten interviewees (including yourself) in total. First everyone goes around to introduce themselves, and you find out that there are two students from each of the Five Colleges. The **interviewer is from Geneva, Switzerland**, and **obviously has no previous knowledge about**

> **the Five-College Consortium**.[a] You notice that **everyone is dressed up properly in business casual, and observing standard interviewing etiquette**. You did not find any showy hairstyle, piercing, jewelry or other accessories. As a supplement to the standard interview procedure, every interviewee is also given a sheet to do a peer evaluation of every other student in the same session.

In the "reduced need" condition, I emphasized that the in-group was seen to an outsider as distinct within the system, and there were appearance-based differences between the out-group colleges:

> A corporation that you really want to get in is coming to the Five-College area to recruit undergraduates. Luckily, you make it to the group interview. In your session, there are ten interviewees (including yourself) in total. First everyone goes around to introduce themselves, and you find out that there are two students from each of the Five Colleges. The **interviewer is from Boston, and is familiar with the reputations of each college here**. You notice that although everyone is observing the basic dress code [i.e., dresses appropriately for the interview], there are also differences in appearance, and **you could tell upon arriving who was from which college before anyone opened their mouth**. As a supplement to the standard interview procedure, every interviewee is also given a sheet to do a peer evaluation of every other student in the same session.

In the control condition, there was no information regarding the distinctiveness of participants' in-group college. The vignette I used for the control condition was as follows:

> A corporation that you really want to get in is coming to the Five-College area to recruit undergraduates. Luckily, you make it to the group interview. In your session, there are ten interviewees (including yourself) in total. First everyone goes around to introduce themselves, and you find out that there are two students from each of the Five Colleges. As a supplement to the

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[a]The sentences in bold were unique to each vignette. They were not bolded in the original survey.

> standard interview procedure, every interviewee is also given a sheet to do a peer evaluation of every other student in the same session.

After the vignette, participants in all three conditions also read the following sentences to further immerse them into the situation: "Please take a minute to think about how you would act during the interview and how the other students would perceive you both at the BEGINNING (when all they really know about you is that you are a [e.g., Mount Holyoke] student) and at the END (when they have learned more about you from your answers)."

Individual application of meta-stereotypes. The key dependent variable was whether participants agree that out-group college students stereotype them as individuals. Participants read the question: "What do you think the interviewees from the other colleges imagine to be true about you right after you introduce yourself as a Mount Holyoke student, at the very BEGINNING? They think it's likely that you are…" A list of traits followed this prompt. The traits I used here were a combination of commonly held meta-stereotypes of in-group college generated from Study 1, and commonly held stereotypes of out-group colleges (Carbone, 2012), which were distinguishably different from the in-group meta-stereotypes (see Appendix A for the lists of actual items I used for each school). Participants used a Likert scale bounded at 1 (Strongly Disagree) and 7 (Strongly Agree) to rate each trait. Participants were also asked if they thought these beliefs were accurate, and how they felt about them.

Manipulation checks. To check if the manipulation was effective, I asked the participants two questions: "Within the Five-College system, how distinctive do you think Mount Holyoke is to the interviewer?" and "How familiar was the interviewer with the differences between the five colleges before the interview?" Participants answered by rating on a Likert scale (1=Not at all, 7=Extremely).

Level of contact. Participants were asked to answer a series of questions regarding their contact with students from other colleges by rating on a Likert scale (1=Never, 2=Rarely, 3=Sometimes, 4=Often): "In the past, have you ever taken a class at the other colleges?" "In the past, have you ever had a student from the other colleges in your classes at Mount Holyoke?" "In the past, have you ever dated or hooked up with someone from the other colleges?" "In the past, have you ever gone to the other colleges for a party?" "In the past, have you ever interacted with a student from the other colleges at a party at Mount Holyoke?" "In the past, have you ever participated in a sport or club activity AGAINST one of the other colleges?" "In the past, have you ever participated in a sport or club activity WITH students from the other colleges?" "In the past, have you ever interacted with students from the other colleges in local cafes, cinemas, or other off-campus locations in the area?" "In the past, have you ever interacted with students from the other colleges in any other ways not otherwise specified above?"

Perceived Prototypicality. To measure how typical a group member each school's participants see themselves as, I asked them "To what extent would you describe yourself as a typical Mount Holyoke student?" Participants answered by

rating on a Likert scale (1=Not at all, 2=Only a few characteristics, 3=In some ways, but not others, 4=Very much).

Demographic questions. Finally, participants were asked to report their age, gender, race/ethnicity, class year, and number of semesters completed in the Five-College Consortium.

Results

Application of meta-stereotypes to the self. I calculated for each participant a mean score on all in-group college meta-stereotypes and another mean score of all out-group college stereotypes. I conducted analyses of variance (ANOVAs) to examine if the need-for-distinctiveness manipulation affected the level of application of in-group college meta-stereotypes and out-group stereotypes. Recall my prediction that participants should apply more meta-stereotypes in the heightened need condition, and fewer in the reduced need condition, comparing to the control condition. They should not differ in application of out-group college stereotypes across conditions.

For four of the five colleges (Amherst College, Hampshire College, Mount Holyoke College, and UMass), no main effect of condition was found on participants' application of in-group college meta-stereotypes (see Figure 3). As predicted, there was no main effect of condition on participants' application of out-group college stereotypes either. Participants from these four colleges did not

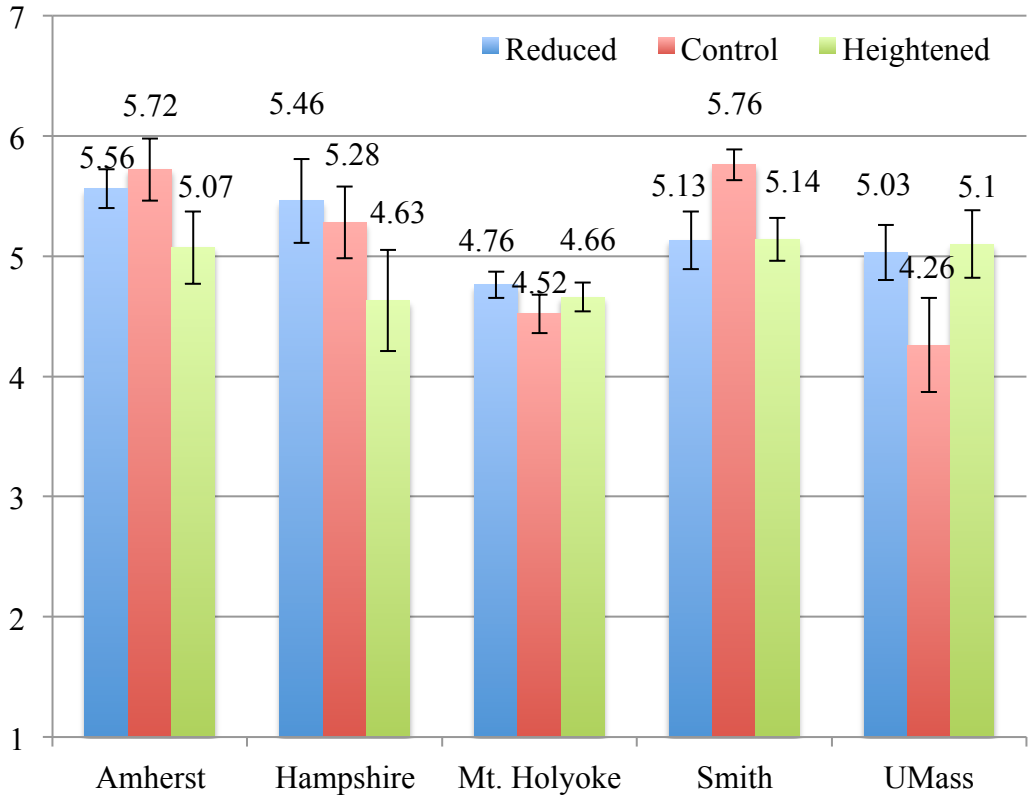

Figure 3.Participants' Application of Meta-stereotypes as a Function of Condition.

differ in their application of meta-stereotype traits or other traits as a function of the experimental manipulation.

With the Smith College sample, a significant main effect of condition was found on the application of Smith meta-stereotypes, $F(2, 38) = 3.59$, $p = .04$. Participants in the reduced need condition applied significantly fewer meta-stereotypes to the self ($M = 5.13$, $SD = .85$) than those in the control condition ($M = 5.76$, $SD = .48$), $t(17.19) = -2.25$, $p = .04$. Participants in the heightened need condition also applied significantly fewer meta-stereotypes to the self ($M = 5.14$, $SD = .71$) than those in the control condition, $t(26.22) = -2.78$, $p = .01$. However, participants in the reduced need condition did not differ from those in the heightened need condition. As predicted, there was no main effect of condition on participants' application of the comparison traits (out-group college stereotypes). To summarize, although Smith students differed in their endorsement of meta-stereotypes by condition, they did not differ in the way I predicted. Therefore, none of the five colleges provided evidence in support of my main hypothesis.

Manipulation check. One possible explanation of this disappointing finding is that the manipulation was not effective. To check whether participants perceived the three scenarios differently, I conducted one-way analyses of variance (ANOVAs) on the two manipulation check items: the familiarity scale and the distinctiveness scale.

Familiarity scale. The first question asked about participants' perceptions of how familiar the interviewer was with the differences between the five colleges.

Participants in the heightened need condition should feel that the interviewer was less familiar with the differences, while participants in the reduced need condition should feel that the interviewer was more familiar with the differences, compared to the control group.

With the Amherst College sample, a significant main effect of condition was found on the familiarity scale, $F(2, 47) = 27.13$, $p < .001$. Participants in the heightened need condition rated significantly lower on the familiarity scale than both those in the control condition, $t(34.47) = -7.01$, $p < .001$, and those in the reduced need condition, $t(23.47) = -5.31$, $p < .001$. However, participants in the reduced need condition did not rate significantly higher than those in the control condition did (see Table 16 for the descriptive statistics). Therefore, participants from Amherst College correctly perceived the interviewer's familiarity with group differences, as intended, in the heightened need and control conditions, but not in the reduced need condition.

With the Hampshire College sample, a significant main effect of condition was found on the familiarity scale, $F(2, 27) = 12.25$, $p < .001$. Participants in the reduced need condition rated significantly higher on the familiarity scale than those in the control condition did, $t(13.94) = 2.60$, $p = .02$. Participants in the heightened need condition rated significantly lower than both those in the control condition, $t(18.53) = -2.85$, $p = .001$, and those in the reduced need condition did, $t(13.64) = -4.91$, $p < .001$. Therefore, participants from Hampshire College

Table 16

Mean of Participants' Ratings on Familiarity Scale by Condition

	Reduced Need		Control		Heightened Need	
College	*M*	*SD*	*M*	*SD*	*M*	*SD*
Amherst	4.69	1.49	4.88	1.15	2.00	1.34
Hampshire	5.25	1.58	3.46	1.45	1.78	1.30
Mt. Holyoke	5.41	.96	4.21	1.32	1.86	1.43
Smith	5.42	1.24	4.08	.86	2.40	1.35
UMass	4.58	1.68	3.89	1.27	1.47	1.07

correctly perceived the interviewer's familiarity with group differences as intended in all three conditions.

With the Mount Holyoke College sample, a significant main effect of condition was found on the familiarity scale, $F(2, 71) = 51.22$, $p < .001$. Participants in the reduced need condition rated significantly higher than those in the control condition did, $t(41.93) = 3.55$, $p = .001$. Participants in the heightened need condition rated significantly lower than both those in the control condition, $t(49.73) = 6.16$, $p < .001$, and those in the reduced need condition did, $t(46.95) = -10.47$, $p < .001$. Therefore, participants from Mount Holyoke College correctly perceived the interviewer's familiarity with group differences as intended in all three conditions.

With the Smith College sample, a significant main effect of condition was found on the familiarity scale, $F(2, 37) = 22.18$, $p < .001$. Participants in the reduced need condition perceived the interviewer to be significantly more familiar with the five colleges than those in the control condition did, $t(19.46) = 3.11$, $p = .006$. Participants in the heightened need condition rated significantly lower on the familiarity scale than both those in the control condition, $t(24.04) = -3.96$, $p < .001$, and those in the reduced need condition did, $t(24.48) = -6.03$, $p < .001$. Therefore, participants from Smith College correctly perceived the interviewer's familiarity with group differences as intended in all three conditions.

With the UMass sample, a significant main effect of condition was found on the familiarity scale, $F(2, 42) = 23.39$, $p < .001$. Participants in the heightened

need condition rated significantly lower than both those in the control condition, $t(14.12) = -4.88$, $p < .001$, and those in the reduced need condition did, $t(30.87) = -6.70$, $p < .001$. However, participants in the reduced need condition did not rate significantly differently from those in the control condition did. Therefore, participants from UMass correctly perceived the interviewer's familiarity with group differences as intended in the heightened need and the control condition, but not in the reduced need condition.

Overall, students from all five colleges generally perceived the interviewer's differing familiarity across conditions as intended, but some did not differentiate between the reduced need and the control condition.

Distinctiveness scale. The second manipulation check item asked about participants' perception of how distinctive their in-group college was within the Five College Consortium to the interviewer. Participants in the heightened need condition should feel that the in-group college was less distinctive within the Consortium, while participants in the reduced need condition should feel that the in-group college was more distinctive within the Consortium, compared to the control group.

With the Amherst College sample, a significant main effect of condition was found on the distinctiveness scale, $F(2, 47) = 17.43$, $p < .001$. Participants in the heightened need condition perceived their college to be significantly less distinctive within the Consortium than both those in the control condition, $t(30.55) = -5.26$, $p < .001$, and those in the reduced need condition did, $t(31.68) = -4.70$,

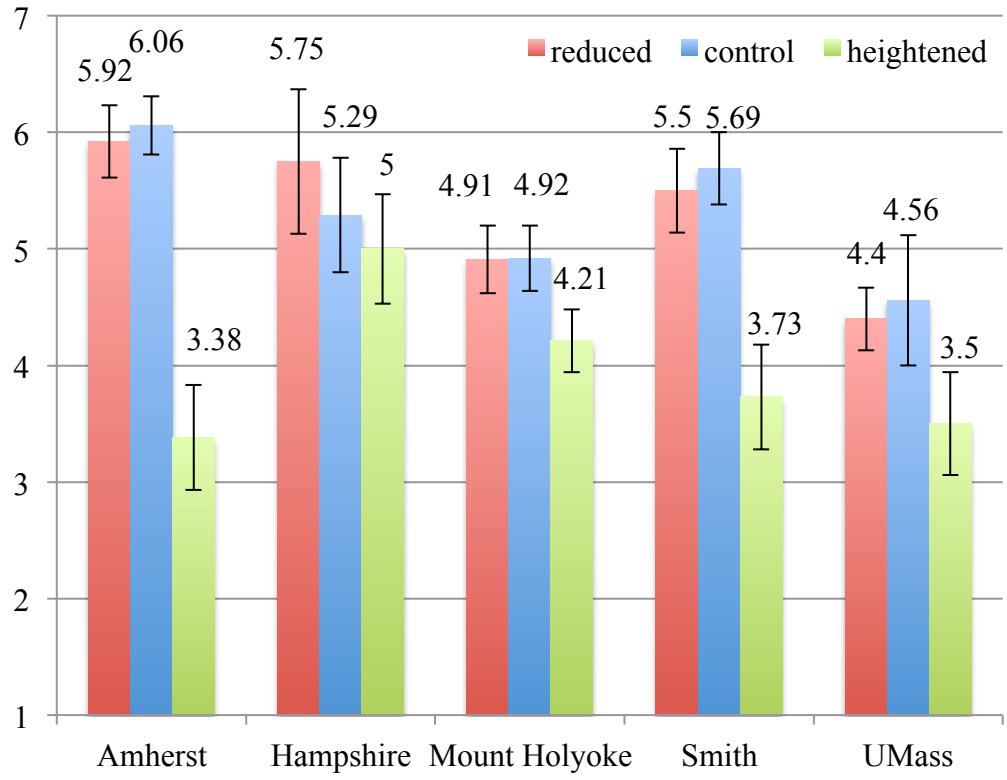

Figure 4. Distinctiveness Ratings by Condition.

$p < .001$. However, participants in the reduced need condition did not perceive their college to be significantly more distinctive than those in the control condition did (see Figure 4). Therefore, participants from Amherst College correctly perceived their college's distinctiveness within the system as intended in the heightened need and the control condition, but not in the reduced need condition.

With the Hampshire College sample, no main effect was found for condition. Distinctiveness ratings did not differ between any of the three conditions. The distinctiveness score was high across all groups. Therefore, Hampshire College students perceived their college as distinctive within the Consortium across all conditions.

With the Mount Holyoke College sample, no main effect was found for condition. Because participants in the reduced need condition did not perceive their college as more distinctive than those in the control condition did, I collapsed the two conditions into one non-heightened need condition. Participants in the heightened need condition had significantly lower distinctiveness ratings ($M = 4.21$, $SD = 1.45$) than those in the non-heightened need condition did ($M = 4.91$, $SD = 1.35$), $t(53.92) = -2.07$, $p = .04$. Therefore, the similarity between the reduced need and control conditions indicated that participants did not interpret the reduced need condition as intended, while the difference between heightened need and non-heightened need conditions indicated that they correctly interpreted the heightened need condition.

With the Smith College sample, a significant main effect of condition was found on the distinctiveness scale, $F(2, 37) = 8.15$, $p = .001$. Participants in the heightened need condition perceived their college as significantly less distinctive than both those in the control condition, $t(23.97) = -3.58$, $p = .002$, and those in the reduced need condition did, $t(24.71) = -3.06$, $p = .005$. However, participants in the reduced need condition did not perceive their college as more distinctive than those in the control condition did. Therefore, participants from Smith College correctly perceived their college's distinctiveness within the system as intended in the heightened need and the control conditions, but not in the reduced need condition.

With the UMass sample, no main effect was found for condition. Although participants in the heightened need condition perceived their college as less distinctive than both those in the control condition and those in the reduced need condition did, it was not a significant difference. Therefore, UMass students did not differentiate between conditions.

Overall, two out of five colleges perceived the distinctiveness of their in-group colleges significantly differently between the heightened need condition and other conditions, but not between the reduced need condition and the control condition. The other three colleges did not perceive the differences at all. Therefore, the manipulation of perceived distinctiveness was not very successful, especially for the reduced need condition.

Summary of manipulation effectiveness. Generally, participants perceived the direct manipulation of the interviewer's familiarity with the Five College Consortium as intended. However, many of them did not translate the differences in familiarity into differences in the distinctiveness of their in-group colleges. In other words, the majority did not perceive the distinctiveness of their in-group colleges as intended. Furthermore, both the familiarity scale and the distinctiveness scale suggested that the manipulation of the reduced need condition was not strong enough. Therefore, participants in the reduced need condition did not perceive the scenario as I intended; hence their need for group distinctiveness was probably not reduced comparing to the control condition. I will take up this problem again in the discussion.

Level of contact. I collapsed the nine questions on participants' level of contact with students from out-group colleges (see Table 17 for reliability). Then I calculated a mean level of contact score for each college. Overall, students had a low level of contact with students from other colleges in the Five College Consortium. Even the highest level, 2.45, was below the mid-point of the scale (see Figure 2 for detailed scores for each college).

Perceived prototypicality. Figure 5 shows how typical a group member each school's participants see themselves as. Overall, students of all five colleges see themselves as being somewhere between having "only a few [typical] characteristics" and "[typical] in some ways, but not others." Smith has the most

Table 17

Reliability (Cronbach's Alpha) of Level of Contact Measure

	Amherst	Hampshire	Mt. Holyoke	Smith	UMass
α	.73	.68	.73	.66	.76

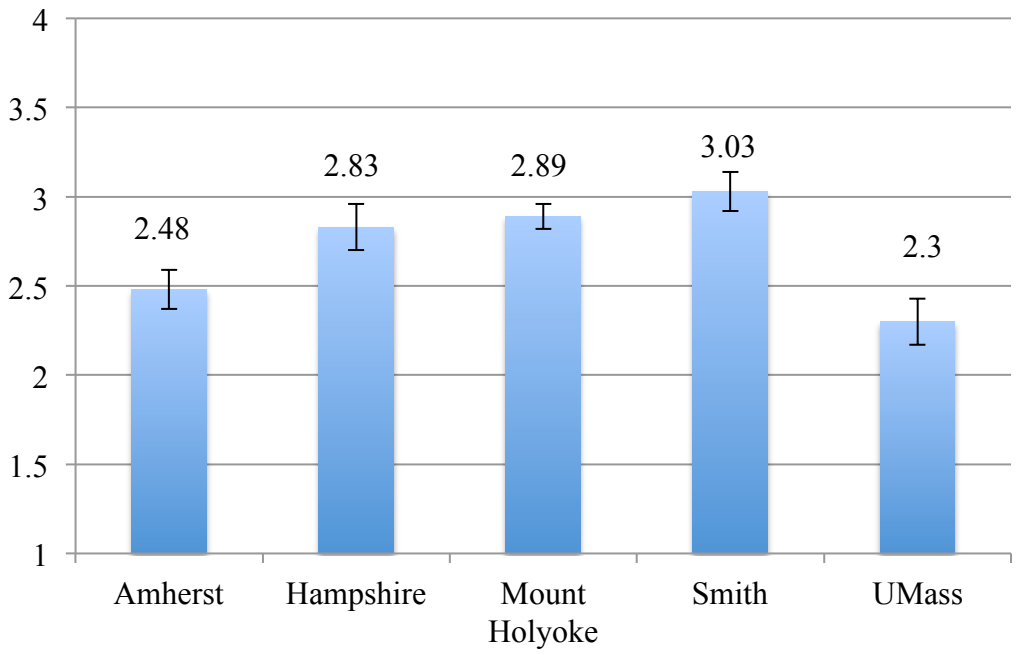

*Figure 5.*Mean Perceived Prototypicality by College**.**

students who see themselves as prototypical Smith students, while UMass has the least.

Discussion

I did not find direct evidence supporting the hypothesis that participants used meta-stereotypes to meet their need for group distinctiveness. However, this should not necessarily be interpreted as a disconfirmation of the hypothesis. The lack of evidence might simply reflect the fact that the manipulation of the experiment was not effective, as shown in the manipulation check results above.

The manipulation was probably unsuccessful partly because the reduced need condition and the control condition were too similar. In the control condition I did not provide participants with any information about where the interviewer came from and what level of knowledge the person had about the Five College Consortium, but participants probably assumed something similar to the reduced need condition: that the interviewer was from somewhere in the United States not too far away from the Five College area, and probably had a certain level of knowledge regarding the five colleges. Otherwise, the interviewer might not come to the area at all.

Another possible weakness of the manipulation could be the setup of the job interview scenario. This particular situation was designed to be highly competitive in nature, and was very different from the day-to-day social life students experience in the Five College Consortium. Therefore, some traits might

seem a little out of the place and irrelevant to a job interview context, such as "partier" and "desperate." The limitation of the situation might have influenced participants' responses as well. A possible way to improve could be to create a scenario in which students from all five colleges gather to create a social organization, rather than to compete for a job opening. Ideally, this situation would resemble students' mundane interactions with out-group college students the most, so they would freely associate with any meta-stereotype trait, rather than a set of situation-specific traits.

One potential concern with the manipulation is that this task may have been mildly upsetting or insulting to participants. However, research has shown (both in this intergroup context and others) that meta-stereotypes are widely shared, consensually understood representations of the in-group (Vorauer et al., 1998). Some of the traits used here were negative (and therefore potentially insulting) but they were not novel information. Since the items were all generated by students from the same college, I did not tell participants anything that they had not already thought about or heard of in day-to-day Five-College interaction.

Because the manipulation was not as effective as expected, I could not firmly conclude whether the hypothesis was supported. Therefore, there still exists the possibility that participants indeed did not apply meta-stereotypes to meet their need for group distinctiveness. If this is true, there are several possible explanations that I discuss in details below.

First, it is possible that participants were not willing to apply meta-stereotype traits to themselves as individuals, but were willing to have their in-group in general viewed this way. Kamans et al. (2009) theorized that Dutch Moroccan teenagers legitimized the criminal behaviors related to their meta-stereotypes to feel that their in-group was distinctive. However, perceiving some trait as a group characteristic is not the same thing as applying the perception to oneself. Kamans et al. (2009) found that only the prejudiced Dutch Moroccan teenagers who felt personally stereotyped assimilated to the negative meta-stereotypes. In other words, among the teenagers who were not prejudiced, there was no correlation between personally meta-stereotyping and legitimizing the criminal behaviors (i.e., perceiving the behaviors as common in their in-group). Therefore, it is possible that a Mount Holyoke student might expect her student body to be seen as not smart by students from other colleges, but at the same time she does not believe that she would be seen the same way as an individual. The perceived prototypicality data further supported this hypothesis. Overall, participants perceived themselves as typical students of their own college only "in some ways, but not others." I did not ask follow-up questions on the specific aspects they referred to when answering, but it is possible that they thought that only part of the meta-stereotypes apply to themselves. Therefore, it is worth further study on the relationship between the need for group distinctiveness and the application of meta-stereotype on collective level, rather than the individual application of meta-stereotype examined in this study.

Second, it is possible that participants met their need for distinctiveness within the group (i.e., the college), not between the groups as hypothesized above. Previous research has shown that people are most likely to achieve optimal distinctiveness within groups of moderate sizes, but there was no clear definition of what "moderate" meant. Brewer (1991) originally used a criterion of less than 20% of the population to define a "minority" group, but she did not indicate the size of a moderate group. Badea et al. (2010) defined 2% of the population as minority, 20% as a moderate group, and 75% as a majority group. Although UMass has a student body more than twice as big as the other four colleges put altogether, the difference in size is not as dramatic as that between a majority group and a minority group (i.e., the difference between 75% and 2%). The other four colleges are close in size, and this might further reduce the feeling of being in a minority group. It is possible that students in each college felt that they were in a group of moderate size, and thus have met the need for distinctiveness on the individual level already.

Moreover, the cooperative nature of the Five College Consortium might also have contributed to students' lack of need for group distinctiveness. In the study done by Kamans et al. (2009), the Dutch Moroccan teenagers and Non-Moroccan Dutch teenagers have a very tense relation, and the Dutch Moroccans are sometimes discriminated by the non-Moroccan Dutch people. It is possible that intergroup conflict is a necessary condition for people to have the need to achieve group distinctiveness through negative meta-stereotyping. Because

students in the Consortium do not have a hostile history, they might not feel the urge to clarify group boundaries and make their in-group distinctive.

In both cases, students in the Consortium would not have a strong need for group distinctiveness. Therefore, there would be no need to apply the large number of negative traits in meta-stereotypes to themselves.

GENERAL DISCUSSION

This thesis reports the result of two studies examining the sources and functions of meta-stereotyping in a novel intergroup system. This project builds upon existing work on stereotyping to ask whether similar sources and functions apply to *meta*-stereotyping. Furthermore, this project builds upon existing intergroup research that has focused disproportionately on a relatively small number of intergroup systems to ask whether similar intergroup processes apply to a novel system.

In summary, Study 1 showed that social status and inter-group competition and auto-stereotypes are both sources of meta-stereotypes; that social status and inter-group competition may be more important a source than auto-stereotypes are; and that auto-stereotypes may be responsible for the inaccurate aspects of meta-stereotypes. Study 2 attempted to test the hypothesis that participants used meta-stereotyping to meet their need for group distinctiveness. Results did not seem to support the hypothesis, perhaps due to the unsuccessful experimental manipulation.

One notable finding across these two studies is that meta-stereotypes existed; they were largely negative; they were readily generated by participants; and they were consensually known. These findings were similar to a key finding from the early literature on intergroup relations: discrimination (the behavioral component of intergroup bias) can occur without a history of intergroup conflict

(Tajfel, 1970). Clearly, the cognitive components of bias (stereotyping and/or meta-stereotyping) can also occur without a history of intergroup conflict – indeed, with a history of cooperation. The five colleges do not have any violent or hostile history, and yet the study showed that meta-stereotyping is quite prevalent on all campuses.

Early research has also found that mere social contact with out-group members is not enough to reduce prejudice; contact must be accompanied by cooperative work toward a shared goal (Sherif, 1956). Even though cross-enrollment in courses and transportation between colleges are very convenient, only 9% of UMass seniors who graduated in 2011 had taken at least one course on another campus (Kennedy, 2011). The percentage was not very high on other campuses either, with Hampshire being the only exception - perhaps due to its smallest student body and fewest course offerings among the five (for more details see Table 2). Fifty years have passed since the Consortium was founded, but students still reported a notably low level of contact with peers from other colleges (for more details see Figure 2).

Previous research suggests that members of powerful groups are less likely to activate or apply meta-stereotypes to their in-groups, and this effect is mediated by a reduced inclination to take perspective of out-group members (Lammers, Gordijn, & Otten, 2008). This would seem to imply that I should observe status-based differences between the five colleges in terms of their willingness to apply meta-stereotypes to themselves. However, that does not seem

to be the case in my dataset. I conducted a supplementary analysis after collapsing across the three conditions in Study 2 to see how many meta-stereotype traits participants applied to themselves in each college. Surprisingly, Amherst students individually applied all of their meta-stereotypes. Smith students also applied all but one meta-stereotype trait. Likewise, students from Hampshire and UMass individually applied most of their meta-stereotypes as well. Because this analysis is beyond the scope of this thesis, I did not include it in the Results section of Study 2 and will not go into further details here. Nonetheless, it is noteworthy that Amherst College and Smith College, the two groups with the highest social status within the system, also applied most (if not all) of their college's meta-stereotypes to themselves, just like groups with lower status did. Though status differences exist in the Five College Consortium, the college students do not have direct or actual control over the out-group colleges, which is different from the intergroup power dynamic studied by earlier researchers. Therefore, perhaps Amherst and Smith students cannot avoid taking the perspective of Mount Holyoke students in the same way that a powerful group can sometimes afford to ignore the perspective of a powerless group.

Although meta-stereotyping is clearly functional, the question still remains what exact functions meta-stereotyping serves. If further studies reveal that people do not meta-stereotype to fulfill their need for group distinctiveness, it is worth continuing exploration on other possible needs. I will briefly discuss some possible research directions below.

As discussed earlier, recent research has found that perceiving discrimination against one's in-group is associated with an increase in identification and commitment to the group (Branscombe et al., 1999; Jetten et al., 2001). Therefore, later studies should look into whether negative content of meta-stereotypes help fulfill people's need to belong by promoting people's commitment to their in-groups.

According to Fiske (2003), shared social understanding is important at both individual and group level for social adaptation, but it is especially important for individuals within a group. Meta-stereotypes, just like stereotypes, are shared social understanding among in-group members. Therefore, it is possible that meta-stereotyping serves a function of helping people understand the social environment, especially the inter-group relationship and relative social status of both groups. Later studies should examine whether meta-stereotyping helps people understand the social world and control their social interaction outcomes.

Tajfel (1970) experimentally demonstrated that social categorization is all that it takes to generate discriminations. Early research also found that counter-intuitively, prejudices usually lead to stereotypes, rather than the other way around (Campbell, 1967). Therefore, it follows that prejudices possibly also pre-exist meta-stereotypes. Then one possible function of meta-stereotyping is to justify the discrimination against out-groups. This could explain why meta-stereotypes are largely negative. If an out-group views the in-group in negative light, then it will be reasonable and justifiable for the in-group to perceive the out-

group negatively as well. Later studies should explore the possible justification function of meta-stereotyping.

APPENDIX A

Stimuli Lists for Study 2 Surveys

Amherst	**Mount Holyoke**	**Smith**
[Meta-stereotypes]	**[Meta-stereotypes]**	**[Meta-stereotypes]**
snobby	a feminist	a feminist
smart	a lesbian	a lesbian
arrogant	smart	smart
preppy	hardworking	stuck-up
rich	a partier	hardworking
pretentious	stuck-up	crazy
	not as smart	non-girly
[Other traits]	friendly	
a feminist	desperate	**[Other traits]**
friendly		preppy
a hippie	**[Other traits]**	not as smart
a drug user	a heavy drinker	dirty
gay/lesbian	snobby	a hippie
a heavy drinker	preppy	a drug user
not as smart	aggressive	laidback
dirty	dirty	a heavy drinker
weird	a hippie	pretentious
shy	a drug user	friendly

Hampshire [Meta-stereotypes]	**UMass [Meta-stereotypes]**
a hippie	A partier
a hipster	Less academic
a stoner	Not as smart
lazy	Wild
dirty	Lower income
weird	Loud
[Other traits]	**[Other traits]**
rich	Smart
snobby	Rich
preppy	Arrogant
smart	Snobby
not as smart	Slutty/desperate
gay/lesbian	A hippie
a feminist	Dirty
studious	Weird
conservative	Gay/Lesbian
into frat parties	A feminist

APPENDIX B

Mount Holyoke Survey for Study 2

Please answer this page to the best of your knowledge. Note that we are not interested in your personal beliefs, but in how you think they are viewed by others.

2. The jobs typically achieved by ___ students are prestigious.

	Not at all						Extremely
Amherst	○	○	○	○	○	○	○
UMass	○	○	○	○	○	○	○
Hampshire	○	○	○	○	○	○	○
Smith	○	○	○	○	○	○	○

3. If ___ students get special breaks (such as preference in hiring decisions), this is likely to make things more difficult for Mount Holyoke students.

	Not at all						Extremely
UMass	○	○	○	○	○	○	○
Amherst	○	○	○	○	○	○	○
Hampshire	○	○	○	○	○	○	○
Smith	○	○	○	○	○	○	○

4. ___ students have been economically successful after graduation.

	Not at all						Extremely
Smith	○	○	○	○	○	○	○
UMass	○	○	○	○	○	○	○
Amherst	○	○	○	○	○	○	○
Hampshire	○	○	○	○	○	○	○

5. Resources that go to ___ students are likely to take away from the resources of Mount Holyoke students.

	Not at all						Extremely
Amherst	○	○	○	○	○	○	○
Hampshire	○	○	○	○	○	○	○
UMass	○	○	○	○	○	○	○
Smith	○	○	○	○	○	○	○

6. In which month were you born?

- ○ January, February, March, April
- ○ May, June, July, August
- ○ September, October, November, December

Please read this page carefully!

Imagine you're in this scenario:

A corporation that you really want to get in is coming to the Five-College area to recruit undergraduates. Luckily, you make it to the group interview. In your session, there're ten interviewees (including yourself) in total. First everyone goes around to introduce themselves, and you find out that there are two students from each of the Five Colleges. The interviewer is from Geneva, Switzerland, and obviously has no previous knowledge about the Five-College Consortium. You notice that everyone is dressed up properly in business casual, and observing standard interviewing etiquette. You didn't find any showy hairstyle, piercing, jewelry or other accessories. As a supplement to the standard interview procedure, every interviewee is also given a sheet to do a peer evaluation of every other student in the same session.

Please take a minute to think about how you would act during the interview and how the other students would perceive you both at the BEGINNING (when all they really know about you is that you are a Mount Holyoke student) and at the END (when they have learned more about you from your answers).

Please read this page carefully!

Imagine you're in this scenario:

A corporation that you really want to get in is coming to the Five-College area to recruit undergraduates. Luckily, you make it to the group interview. In your session, there're ten interviewees (including yourself) in total. First everyone goes around to introduce themselves, and you find out that there are two students from each of the Five Colleges. The interviewer is from Boston, and is familiar with the reputations of each college here. You notice that although everyone is observing the basic dress code, there are also differences in appearance, and you could tell upon arriving who was from which college before anyone opened their mouth. As a supplement to the standard interview procedure, every interviewee is also given a sheet to do a peer evaluation of every other student in the same session.

Please take a minute to think about how you would act during the interview and how the other students would perceive you both at the BEGINNING (when all they really know about you is that you are a Mount Holyoke student) and at the END (when they have learned more about you from your answers).

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Please take a minute to think about how you would act during the interview and how the other students would perceive you both at the BEGINNING (when all they really know about you is that you are a Mount Holyoke student) and at the END (when they have learned more about you from your answers).

Please read carefully!!!

7. What do you think the interviewees from the other colleges imagine to be true about you right after you introduce yourself as a Mount Holyoke student, at the very BEGINNING? They think it's likely that you are...

	Strongly Disagree						Strongly Agree
aggressive	○	○	○	○	○	○	○
snobby	○	○	○	○	○	○	○
desperate	○	○	○	○	○	○	○
a drug user	○	○	○	○	○	○	○
stuck-up	○	○	○	○	○	○	○
hardworking	○	○	○	○	○	○	○
smart	○	○	○	○	○	○	○
not as smart	○	○	○	○	○	○	○
a heavy drinker	○	○	○	○	○	○	○
a hippie	○	○	○	○	○	○	○
a lesbian	○	○	○	○	○	○	○
a feminist	○	○	○	○	○	○	○
dirty	○	○	○	○	○	○	○
friendly	○	○	○	○	○	○	○
a partier	○	○	○	○	○	○	○
preppy	○	○	○	○	○	○	○

8. Are these beliefs basically accurate? (It may be hard to choose between yes/no, but please try!)

- ○ Yes
- ○ No

9. And I feel primarily

- ○ Insulted about being seen this way
- ○ Neutral/indifferent
- ○ Proud of being seen this way

10. What do you think the interviewees from the other colleges think about you at the END of the whole interview session, after they have had a chance to learn more about you? They think that you are...

	Strongly Disagree						Strongly Agree
friendly	○	○	○	○	○	○	○
a feminist	○	○	○	○	○	○	○
a heavy drinker	○	○	○	○	○	○	○
hardworking	○	○	○	○	○	○	○
a partier	○	○	○	○	○	○	○
desperate	○	○	○	○	○	○	○
smart	○	○	○	○	○	○	○
a hippie	○	○	○	○	○	○	○
a lesbian	○	○	○	○	○	○	○
dirty	○	○	○	○	○	○	○
snobby	○	○	○	○	○	○	○
preppy	○	○	○	○	○	○	○
not as smart	○	○	○	○	○	○	○
stuck-up	○	○	○	○	○	○	○
aggressive	○	○	○	○	○	○	○
a drug user	○	○	○	○	○	○	○

11. Please think back to what you read about the interviewer and answer these questions to the best of your ability:

	Not at all						Extremely
Within the Five-College system, how distinctive do you think Mount Holyoke is to the interviewer?	○	○	○	○	○	○	○
How familiar was the interviewer with the differences between the five colleges before the interview?	○	○	○	○	○	○	○

12. Please answer the following questions to the best of your knowledge.

	Never	Rarely	Sometimes	Often
In the past, have you ever taken a class at the other colleges?	○	○	○	○
In the past, have you ever had a student from the other colleges in your classes at Mount Holyoke?	○	○	○	○
In the past, have you ever dated or hooked up with someone from the other colleges?	○	○	○	○
In the past, have you ever gone to the other colleges for a party?	○	○	○	○
In the past, have you ever interacted with a student from the other colleges at a party at Mount Holyoke?	○	○	○	○
In the past, have you ever participated in a sport or club activity AGAINST one of the other colleges?	○	○	○	○
In the past, have you ever participated in a sport or club activity WITH students from the other colleges?	○	○	○	○
In the past, have you ever interacted with students from the other colleges in local cafes, cinemas, or other off-campus locations in the area?	○	○	○	○
In the past, have you ever interacted with students from the other colleges in any other ways not otherwise specified above?	○	○	○	○

This is the last page! :)

13. How much does each trait below UNIQUELY DIFFERENTIATE Mount Holyoke from the other four colleges?

	Unique to other schools (NOT MHC)		Shared between MHC/other colleges		Unique to MHC - no other schools
a partier	○	○	○	○	○
dirty	○	○	○	○	○
not as smart	○	○	○	○	○
a heavy drinker	○	○	○	○	○
snobby	○	○	○	○	○
desperate	○	○	○	○	○
stuck-up	○	○	○	○	○
hardworking	○	○	○	○	○
friendly	○	○	○	○	○
a feminist	○	○	○	○	○
preppy	○	○	○	○	○
a hippie	○	○	○	○	○
a lesbian	○	○	○	○	○
aggressive	○	○	○	○	○
a drug user	○	○	○	○	○
smart	○	○	○	○	○

14. To what extent would you describe yourself as a typical Mount Holyoke student?

Not at all	Only a few characteristics	In some ways, but not others	Very much
○	○	○	○

15. Lastly, please answer following questions, according to how YOU identify.

What is your age?	
What is your gender?	
What is your race/ethnicity?	
What is your class year?	
What is the number of semesters that you have COMPLETED in the Five-College system?	

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