LEVELING THE PLAYING FIELD: SIMILARITY'S EFFECT ON SATISFACTION WITH STATUS

by

Samuel E. L. Arnold

A thesis submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Master of Arts in
Psychology

Charlotte

2021

Approved by:

_____
Dr. Anita Blanchard

_____
Dr. Joseph Dippong

_____
Dr. Amy Canevello

ABSTRACT

Samuel E. L. Arnold. Leveling the Playing Field: Similarity's Effect on Satisfaction with Status. (Under the direction of DR. ANITA BLANCHARD)

This study proposes a new construct in expectation states theory – status satisfaction (i.e., satisfaction with one's status in a group). A scale was developed to measure this construct based on previous findings in expectation states literature. In Study 1, a confirmatory factor analysis of a sample of 505 students shows that status satisfaction is highly related to perceptions of similarity and perceptions of entitativity. Study 2 (N = 113) uses an experimental design with online Zoom groups to examine the relationship between status, status satisfaction, participation (i.e., how often one talks), similarity, and entitativity. A theoretical model is proposed, which receives moderate support. Further, information on the similarity of the group was manipulated, but the manipulation failed to influence the means of perceptions of similarity across experimental conditions. However, the manipulation did change group member relationships across conditions. Implications and future directions for status satisfaction and similarity are discussed.

ACKNOWLEDGEMENTS

I would like to express my gratitude to Dr. Anita Blanchard for her help with this research project. This project would not be possible without Dr. Blanchard's assistance. Next, I would like to thank all members of the Virtual, Identity, Community, and Entitativity (VICE) Lab at UNC Charlotte for their help with executing this study with both performing experimental sessions and coding various data. Next, I would like to thank the members of my thesis committee, Dr. Joseph Dippong and Dr. Amy Canevello, for their feedback on this project. Lastly, I would like to thank my friends and family for their support throughout my graduate studies at UNC Charlotte.

DEDICATIONS

This research project is inspired by previous research on entitativity conducted by Dr. Blanchard. Dr. Dippong's background in status characteristics also inspired the connection between similarity, entitativity, and status hierarchies in groups. Additionally, Dr. Ridgeway and Dr. Correll's research were heavily used in this project.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction

Leveling the Playing Field: Similarity's Effect on Satisfaction with Status

Group members differ. Some groups have similar members, others have dissimilar members, and of course, most groups fall somewhere in between. Because of this, we can safely assume that group member differences are ubiquitous. In progressive, multicultural societies, group member differences are common and valued. This has led to ample empirical research on group member differences within task groups (i.e., groups that have an identified goal; Toseland & Rivas, 2012). Some of this research focuses on differences in demographic diversity (e.g., ethnicity and gender; van Knippenberg, De Dreu, & Homan, 2004; Guillaume, Dawson, Woods, Sacramento, & West, 2013; Roberson, 2019), differences in expertise or prestige (Sung & Choi, 2019), or differences in status (i.e., one's social rank compared to others in the group; Ridgeway, Berger, & Smith, 1985; Overbeck, Correll, & Park, 2005).

Despite researchers' focus on phenomena that affect group processes, much of this research is contradictory (for a review, see Roberson, 2019; Guillaume, Dawson, Otaye-Ebede, Woods, & West, 2017). Some evidence suggests that group member differences are desirable because they increase positive group outcomes (e.g., knowledge sharing; Sung & Choi, 2019; Manata, 2019). Other research suggests it exacerbates negative outcomes such as conflict (Howell, Harrison, Burris, & Detert, 2015; Guillaume et al., 2017; Pelled, Eisenhardt, & Xin, 1999).

Some experts argue that the research is contradictory due to poor definitions of diversity (i.e., heterogeneity) and similarity (i.e., homogeneity; Roberson, 2019; Williams & O'Reilly, 1998). These variables are often defined, and therefore, measured differently across empirical studies, especially in psychology. Expectation states theory, on the other hand, offers a clear

definition and measure of these constructs and can provide insights into task group processes studied by social and organizational psychologists (Ridgeway et al., 1985).

The expectation states framework allows us to analyze the effects of peoples' status relative to other members in the group (Whitmeyer, 2003) based on characteristics that are either (a) diffuse, which are typically non-task-related such as ethnicity and gender, or (b) specific, which can be described as a particular ability related to a certain task (e.g., being a mathematician when a group is solving a math problem; Skvoretz & Thomas, 1996). Consider, for example, a group comprised entirely of Black women. Some calculations of diversity would measure this group as very diverse. Expectation states theory, conversely, focuses on relevant differences across group members. Since this group has no differences in diffuse characteristics (and assuming there are no salient specific characteristics such as expertise in the relevant task), it would be considered a reasonably homogeneous group, which I argue is a more accurate measure of this group's heterogeneity/homogeneity. Therefore, in this study, I focus solely on diffuse characteristics (i.e., ethnicity and gender), rather than specific.

The first goal of this study is to propose a previously unexamined variable in expectation states literature: one's satisfaction with their status (i.e., status satisfaction). Since women and ethnic minorities are more likely to be ascribed low-status based on current societal stereotypes (Fiske, Cuddy, Glick, & Xu, 2002), these populations may have lower satisfaction with their status than Whites and men. Therefore, developing a measure for this construct is needed and necessary. Moreover, I investigate the relationship between (a) status satisfaction and status, and (b) status satisfaction and participation (i.e., how much each participant talks in a group).

The second goal of this study is to investigate the relationship between status, similarity, and entitativity. It is possible that entitativity – the evaluation of a group as a social unit – could

influence status outcomes, such as participation and status satisfaction (Blanchard, Caudill, & Walker 2020). In addition, it is possible that emphasizing a group's similarity (which is one of entitativity's antecedent variables) could increase participation across group members and subsequent status satisfaction.

Using two samples, I will validate a scale that measures status satisfaction (Study 1). In Study 2, I will experimentally test the relationship between status satisfaction, similarity, entitativity, and status.

Expectations States Theory

Let us explore more deeply about similarity and demographic diversity. First, we examine expectation states in newly formed groups. A great deal of research shows that status characteristics affect initial group member interactions (Berger, Cohen, & Zelditch, 1972), such as performance expectations, participation, and the evaluation of group members. Indeed, a person's status is ascribed by others in the group based on a person's characteristics and is an integral factor in group processes and interactions (Berger, Fiske, Norman, & Zelditch, 1977; Ridgeway, 2014).

Therefore, status beliefs are associations between a certain characteristic (e.g., gender) and their perceived worthiness and competence at the given task (Ridgeway, 2014). Such associations are rooted in societal stereotypes related to a certain characteristic (e.g., men are decision-makers, women are empathetic). Thus, a person's characteristics inform performance expectations for that person (Webster, 2003; Correll, Benard, & Paik, 2007).

A person's status influences their interactions with others in a group (Ridgeway, 2003). For instance, high-status members are expected to (a) be given more opportunities to participate, (b) contribute more to the group, (c) acquire more positive evaluations from peers in the group,

and (d) exert more influence over group decisions (Correll & Ridgeway, 2003; Correll et al., 2007). Low-status members, on the other hand, are expected to contribute less to group discussions and defer to high-status members during decision-making (Anderson, Srivastava, Beer, & Spataro, 2006). Thus, expectations can shape, and predict, intragroup interactions significantly (Overbeck et al., 2005). Because of this well-established finding, we can predict that one's status is related to their participation rate (i.e., how much they actually speak) in newly formed task groups. Specifically:

H1: Status will be positively correlated with objective participation such that higher status members will participate more.

But what diffuse characteristics lead to low versus high status expectations?

Status and Minorities in America

Plentiful research investigates ethnicity and gender as status cues (Cuddy, Fiske, & Glick, 2007; Howell et al., 2015: Correll et al., 2007). An overwhelming amount of evidence demonstrates that being White and male are cues of high-status, while ethnic minorities and females are associated with low-status (Berger, Rosenholtz, & Zelditch, 1980; Howell et al., 2015). Ethnic minorities are less likely to hold high-ranking positions within an organization (Smith, 2002) and are often ascribed to low-status within groups (Berger et al., 1980; Howell et al., 2015). Similarly, women are perceived as having lower status than men even when they objectively contribute the same as men (Thomas-Hunt & Phillips, 2004). It is important to note these findings are all from samples in America. Gender and ethnicity as status cues likely operate differently in other cultures.

Ethnicity and gender are commonly referred to as surface-level characteristics (Harrison, Price, & Bell, 1998) or diffuse status characteristics (Phillips, Rothbard, & Dumas, 2009). While

it is common to rely on diffuse characteristics to form expectations (Fiske et al., 2002; Cuddy et al., 2007; Correll et al., 2007), it becomes even more common when information on specific characteristics (e.g., skills relevant to the task at hand) is lacking (Howell et al., 2015; Harrison et al., 1998; Bendersky & Hays, 2017). Therefore, one's ethnicity and gender seem to influence their status or rank in a group during short group interactions because specific information (i.e., specific status characteristics) are likely unknown to other group members, whereas one's status during longer group interactions (e.g., a long-term work group) allow time for the group to obtain information about one's specific characteristics.

Harrison and colleagues (1998) found evidence to support this, such that the negative effects of group member differences (i.e., status differences) decreased over time. In other words, demographic characteristics often influence group outcomes in short interactions, but once members "get to know" one another, demographic information (i.e., diffuse characteristics) becomes less influential and less important (Harrison et al., 1998).

Therefore, it is plausible that status assignment based on diffuse characteristics (e.g., ethnicity and gender) occur more frequently in novel, short-lived groups and for first time interactions. When participants have no prior knowledge of or interaction with other participants and they anticipate that group interactions will be short, status assignments based on diffuse characteristic are likely to occur.

The tendency to ascribe women and ethnic minorities as low-status may have a negative psychological effect for such individuals. Group members, for example, may be labeled as low-status in the group simply based on their ethnicity or gender. They may resent that. Further, they may feel as though they deserve higher status because they hold some particular skill relevant to the task. Therefore, their status satisfaction would be low. They may be particularly frustrated in

a short-term group because they cannot establish their credentials. On the other hand, a White man is likely to be satisfied with his status in the group because his will likely be labeled as high-status regardless of his talents at the given task.

The extent to which a group member is satisfied with their place in the status structure is what I call status satisfaction. While little research examines this phenomena, Van Dejk & Van Engen (2013) outline a similar construct called status legitimacy. Status legitimacy is referred to as "the extent to which group members agree with each member's status rank and thus accept the status configuration" (Van Dejk & Van Engen, 2013, p. 229). Van Dejk and Van Engen's (2013) argue that groups who generally agree with the status configuration of the group perform better than groups who have low status legitimacy.

I argue that status satisfaction could have strong influence on group outcomes, especially for groups with high levels of status differences. Research shows that when status legitimacy is low, negative outcomes are likely to emerge. For example, status conflict (i.e., when one causes disruption in the group; Bendersky & Hays, 2017) may occur more frequently when status legitimacy is low since status conflict is often attributed to low-status members fighting for higher-status (Bendersky & Hays, 2012; Hays & Bendersky, 2015). This outcome will likely occur when an individual's status satisfaction is low as well. Another possible outcome when members feel dissatisfied with their rank is disengagement (Carton & Tewfik, 2016; Van Dejk & Van Engen, 2013). These members may detract from group interactions and become apathetic (Carton & Tewfik, 2016).

Because research demonstrates that being a women or ethnic minority serves as low-status cues in today's current societal context (Berger et at., 1980; Howell et al., 2015), and groups rely more on ethnicity and gender when specific characteristics are lacking, women and

ethnic minorities are likely ascribed as low-status in short-lived groups or interactions. Since these assignments are often based on commonly held stereotypes, women and ethnic minorities may be dissatisfied with their status in short-lived groups because they feel that it is unrepresentative of their true competence at the given task. In other words, status assignments based on ethnicity and gender will result in lower levels of status satisfaction in women and ethnic minorities than White people and men, respectively.

While it is reasonable to make such a prediction about the relationship between status and status satisfaction, no formal predictions will be made because no previous research examines this construct. Instead, an exploratory analysis will be conducted on the relationship between status and status satisfaction.

RQ1: What is the relationship between status and status satisfaction in task groups?

In addition, it is plausible that status satisfaction will be strongly related to one's participation in a group. Considering status' influence on participation (i.e., that high-status people are given more opportunities to speak and contribute when compared to low-status people; Ridgeway, 2014), one may become dissatisfied with their status in a group due to fewer opportunities to participate. Take a group comprised of one woman and three men. If the woman is given little chance to participate, she may become dissatisfied with her status. In fact, research shows that men are more likely to interrupt women than other men in conversation (Smith-Lovin & Brody, 1989; Hall & Friedman, 1999). There is has little to no empirical support to make a prediction between this relationship. Therefore, I propose the following research question.

RQ2: What is the relationship between status satisfaction and participation?

Entitativity

Let us now explore a previously unconnected variable to status – entitativity. Entitativity is an individual's evaluation of a group as a social unit (Campbell, 1958; Blanchard et al., 2020; Lickel, Hamilton, Wieczorkowska, Lewis, Sherman, & Uhles, 2000). Any type of group can be perceived as having some level of entitativity, such as a basketball team, a family, or a social category (e.g., ethnicity or gender; Lickel et al., 2000). While entitativity is an important factor for any group and its functions, some groups may be evaluated as more entitative than others. For example, a group of students thoroughly discussing course material around a table will most likely be rated with higher entitativity compared to students sitting around a table quietly studying. While entitativity needs more attention, research shows its relevance in the context of group outcomes (Lickel et al., 2000), such as group cohesion and subsequent performance (Igarashi & Kashima, 2011; Ip, Chiu, & Wan, 2006).

Originally outlined by Campbell (1958) and later validated by Blanchard et al. (2020), entitativity has several antecedents, such as interactivity, similarity/homogeneity, history, and boundaries. Interactivity and similarity are the strongest antecedents of entitativity. Interactivity refers to the degree to which group members interact (Igarashi & Kashima, 2011; Blanchard et al., 2020). Interactivity is highly correlated with entitativity (Gaertner, Iuzzini, Witt, & Orina, 2006; Igarashi & Kashima, 2011), and was later established as an antecedent by Blanchard and colleagues (2020). In other words, increased interactivity is understood to encourage higher levels of entitativity (Blanchard et al., 2020). Moreover, Igarashi and Kashima (2011) deemed interactivity as the most important antecedent for perceived entitativity. Lickel et al. (2000) sought to investigate entitativity and people's perception of interactivity, similarity of goals, and similarity of individuals among different types of groups (e.g., friend groups, social categories,

workgroups, sports teams). Interactivity emerged as one of the most dominant antecedents among the rest (Lickel et al. 2000; Igarashi & Kashima, 2011).

Similarity of characteristics is conceptualized as the degree to which members of a group share similar values and interests. Hamilton & Sherman (1996) argue that any common characteristic can plausibly contribute to a group's feeling of similarity (e.g., similarity of ethnicity, similarity of interests). Some researchers split similarity into two separate factors; similarity of goals and similarity of characteristics (Blanchard et al., 2020; Lickel et al., 2000). I, however, focus on the perception of similarity of characteristics because it related directly to demographic diversity (e.g., gender and ethnicity), which is this study's main concentration.

To better understand the relationship between similarity and entitativity, researchers often use social categorization frameworks (Blanchard et al., 2020). Social categorization asserts that people create categories based on differing characteristics (Tajfel, Billig, Bundy, & Flament, 1971), which can be distinguished as in-groups and out-groups. Additionally, people have an inherent preference towards people in their in-group (Tajfel et al., 1971; Hornsey, 2008) resulting in biases favoring in-group members. In short, people place others that they deem as similar to them in their in-group while placing those that are different from them in their out-group. Thus, groups perceived as highly similar typically have high levels of entitativity. But how might the collective demographic characteristics of a group influence perceptions of interactivity, similarity, and entitativity? In other words, how do individuals' diffuse status characteristics effect entitativity and its antecedents?

Status, Similarity, and Entitativity

I argue for a previously unexamined connection between status and entitativity. Specifically, one's status relates to two of entitativity's antecedents: similarity (i.e., demographic

or diffuse characteristics; Berger et al., 1980; Blanchard et al., 2020; Campbell, 1958) and interactivity (i.e., how often a group member contributes to the group; Correll & Ridgeway, 2003). This is an important conceptual connection, one which has not been made in previous research. However, it is important to reiterate that interactivity in entitativity literature measures one's perceptions of interactivity within the group, rather than objective rates of interactions with group members.

It is plausible that if group members increase their perceptions of similarity – one of entitativity's strongest antecedents – it could reduce gender and ethnicity-based status assignments because it increases members' shared entitativity (i.e., assigning low-status positions to women and minorities; DiTomaso et al., 2007). Some researchers call this a "recategorization" effect that can occur when superordinate identities – an overarching similarity or goal among group members – are present (Harrison et al., 1998; DiTomaso et al., 2007). Further, superordinate identities can decrease the salience of diffuse characteristics and subsequent intragroup bias and conflict (Hewstone, Martin, Hammer-Hewstone, Crisp, & Voci, 2001; Gaertner et al., 2000).

Priming a group as having similarities early in group formations may produce comparable effects and subsequently decrease ethnicity- and gender-based expectations. Specifically, emphasizing a task group's similarity at the beginning of the interaction may decrease the salience of diffuse characteristics, thereby making it less likely that ethnic minorities and women will be assigned low-status based on such diffuse characteristics. Take, for example, a Black woman in a newly formed, short-lived group of White men. This woman may be assigned low-status based solely on her gender and ethnicity because (a) diffuse characteristics are often used to ascribe status at the beginning of interactions (Fiske et al., 2002),

and (b) information on specific characteristics (i.e., her skills at the given task) may be lacking (Cuddy, Fiske, & Glick, 2007). This automatic low-status assignment will likely lead to the woman having fewer chances to participate in group discussions (Correll et al., 2007) and smaller amounts of influence of group decisions, which may lead to lower levels of status satisfaction (Correll & Ridgeway, 2003). Suppose, however, this woman was in the same group, but the group was told that each person in the group were inherently similar to each other. This emphasis may create a superordinate identity-like effect such that groups framed as similar will experience higher levels of similarity, which will increase (a) participation, (b) entitativity, and (c) status satisfaction. Therefore, I predict that in short-term groups:

H2: Emphasizing the group's similarity will increase status satisfaction.

H3a: Emphasizing the group's similarity will increase perceived similarity.

H3b: Emphasizing a group's similarity will increase perceived entitativity.

Additionally, I propose a theoretical model presented in Figure 1. I predict that:

H4: Status will positively affect status satisfaction.

H5: Status will positively affect participation.

H6: Participation will positively affect status satisfaction.

H7: Similarity will positively affect status satisfaction.

H8: Similarity will positively affect participation.

H9: Similarity will positively affect entitativity.

H10: Entitativity will positively affect status satisfaction.

Lastly, based on the logic above, it follows that the strength of the relationship between status and status satisfaction (H4) and status and participation (H5) will decrease when the group is framed as similar. These predictions will be labeled H4b and H5b, respectively. Further, since

perceptions of similarity facilitate this effect, the strength of the relationship between similarity and status satisfaction will increase when the group is framed as similar (H7b).

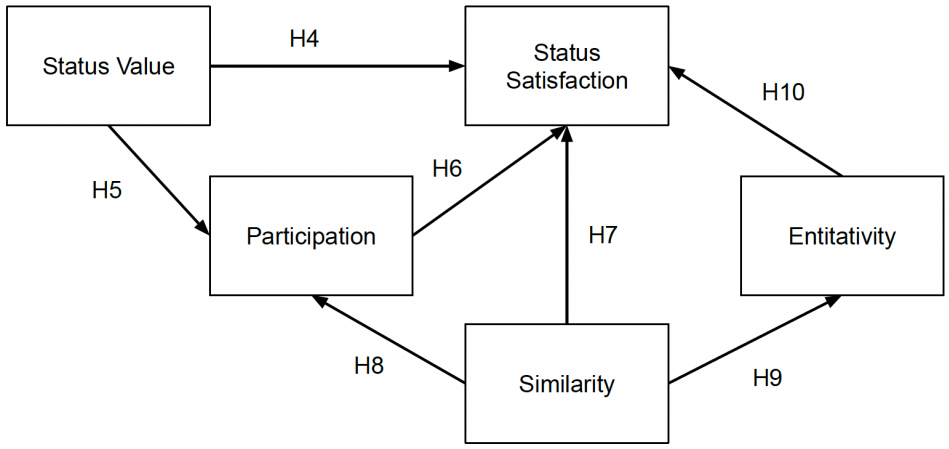

Figure 1. Theoretical model predicting status satisfaction.

In Study 1, I will examine the measure created for status satisfaction. First, I will conduct a principal component analysis to examine the dimensionality of the scale (i.e., if the scale is bifactorial or not). Next, a confirmatory factor analysis will be conducted for status satisfaction, perceptions of similarity (Blanchard et al., 2020), and perceptions of entitativity (Blanchard et al., 2020). This will allow me to test that my newly created scale has convergent and discriminant validity. In Study 2, I will test my research questions, hypotheses, and research model using an experimental design with task groups via Zoom.

Study 1

Method

Participants

A sample of 632 participants were recruited from UNC Charlotte's student population via a mass email (see Appendix F for the recruitment email). After successfully completed the 10-minute survey, participants were entered in a chance to win one of several $10 Amazon gift cards.

To confirm that participants were reading the survey questions adequately, three attention checks were implemented throughout the survey (e.g., "Please select strongly disagree " or "Please select strongly agree"). Participants who did not correctly select the corresponding option on any of the attention checks were removed from the sample. After removing participants that did not pass the attention checks from the data, the sample was narrowed to N = 505. Only these participants were used in further analyses.

In the sample (M_{age} = 24.12, SD = 7.76), 65.7% identified as women. Approximately 54.7% identified as White, 11% as Asian, 11.5% as Black, 6.7% as Latino/Hispanic, .7% as American Indian/Alaska Native, and 14.4% as Other.

Measures

A 10-item scale was developed to measure status satisfaction using previous findings within expectation states literature (see Appendix A). This scale was created by a team of six researchers who brainstormed questions surround (a) participants' feelings of satisfaction with their "rank" in the group, and (b) participants' satisfaction with interactions that are often status-based (i.e., participation level, influence over group decisions, etc.), as presented in Correll et al., (2007).

This scale is potentially bifactorial (i.e., two-dimensional). One set of questions attempt to measure the core (or what I will refer to as the "direct measure") of the construct, such as "I am satisfied with my status in this group" or "I am satisfied with my rank in this group." However, individuals are likely unfamiliar with the terminology of "status" or "rank" in this setting. Additionally, status characteristics enact behaviors that are often subconscious (Berger et al., 1977), and members may not be fully aware of the status configuration or moreover where they are placed within it. Therefore, measuring satisfaction with one's status in a group may be difficult through this direct path.

In an attempt to combat this complication, another set of questions measured indirect outcomes of one's status, such as influence, participation, and contributions. Specifically, previous research has shown that one's status can predict how often they contribute to the group, their influence over group decisions, and how often they are allowed to participate in group discussions (Correll & Ridgeway, 2003; Correll et al., 2007). Therefore, measuring people's satisfaction with such interactions could be an effective method in measuring this construct.

This is a 10-item assessment in which participants were asked to indicate their agreement with each statement on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Similarity and entitativity were assessed using scales from Blanchard et al. (2020; see Appendix B). Perceived similarity is 4-items (e.g., We are alike), Interactivity is 5-items (e.g., We communicate with each other), and Entitativity is 3-items (e.g., We are a unit). Each question was presented on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Procedure

After participants provided consent, they were asked to describe their last online meeting (i.e., an open-ended question). Next, participants were presented the survey portion of the study in which they were told to answer the questions with their last meeting in mind (e.g., their satisfaction with status in their last online meeting). Scales assessing status satisfaction, similarity, and entitativity were administered during this portion of the survey. Lastly, participants were asked to provide their demographic information.

Results

Principal Component Analysis. Since there is moderate theoretical support for the scale to be bifactorial (Correll & Ridgeway, 2003; Correll et al., 2007, a principal component analysis using varimax rotation and Kaiser normalization was performed to assess the dimensionality of the status satisfaction scale (i.e., whether it is bifactorial or unidimensional). The KMO Measure of Sampling Adequacy was .955, which suggests that the correlation matrix was factorable (X^2 = 4596.376, df = 45, $p < .000$).

The results suggest that a one-factor solution is best, since there was only one component with an Eigenvalue higher than 1. This factor accounted for 69.23% of the variance in the model (see Table 1 for communalities).

Table 1

Communalities for Status Satisfaction

Item	Initial	Extraction
I am satisfied with how much others listen to me in the group.	.653	.661
I am satisfied with how much I was able to speak.	.531	.546
I feel satisfied with how much others perceived my contributions to the group	.646	.653
I feel satisfied with the acknowledgement I received for my contributions.	.649	.669

I feel satisfied with how much my ideas were received by others in the group.	.723	.730
I am satisfied with my status in the group.	.599	.581
I am satisfied with my position in the group.	.691	.695
I am satisfied with my influence in the group.	.658	.676
I am satisfied with how my opinions were received.	.670	.694
I am satisfied with how much I was considered in group decisions.	.681	.681

Note: Items in the left column correspond to items of status satisfaction, which can be found in the appendixes.

Since only one factor was rotated (i.e., the items loaded onto one factor only), the construct appears to be unidimensional as opposed to two-dimensional with direct and indirect status satisfaction measures (see Table 2 for factor matrix). Therefore, the scale should be considered to measure one construct – status satisfaction.

Before continuing, however, the scale was reduced to five items. Items were selected based on two criteria – theoretical support and factor value (i.e., how well the item loads onto the factor). First, I wanted to include at least one item that measured the major outcomes of status. This includes (1) satisfaction with their "position" in the group, (2) satisfaction with their contributions to the group, (3) satisfaction with the amount others listen to them in the group, and (4) satisfaction with their influence over group decisions. Second, items within each of these subsets were selected based on which had the strongest factor loading (see Table 2).

Table 2

Factor Matrix for Status Satisfaction

Item	Factor Value
I am satisfied with how much others listen to me in the group.	.813
I am satisfied with how much I was able to speak.	.739
I feel satisfied with how much others perceived my contributions to the group	.808
I feel satisfied with the acknowledgement I received for my contributions.	.818

I feel satisfied with how much my ideas were received by others in the group.	.854
I am satisfied with my status in the group.	.762
I am satisfied with my position in the group.	.834
I am satisfied with my influence in the group.	.822
I am satisfied with how my opinions were received.	.833
I am satisfied with how much I was considered in group decisions.	.825

Note: The five items in italics indicate the items in the reduced version of the scale.

Descriptive statistics correlations can be found in Table 3 below. Additionally, Cronbach's alpha was assessed for each scale to test the scales' reliability. Since scores above .7 are typically desired, each scale appears to be reliable in this sample. Additionally, correlations were performed between each scale to assess any collinearity issues. The strongest correlation reaches r = 7.17, which is somewhat high, but since previous research in entitativity has shown similar correlations (Blanchard et al., 2020), the assumption of non-collinearity is considered not violated.

Table 3

Means, standard deviations, and correlations in Study 1

Variable	M	SD	1	2	3
1. Status Sat.	5.41	1.23	(.92)		
2. Similarity	5.40	1.07	.68**	(.87)	
3. Entitativity	5.33	1.40	.72**	.71**	(.90)

Note. *M* and *SD* represent the mean and standard deviation, respectively. Each scale was presented on a 1-7 Likert-type. ** indicates $p < .01$. Numbers in the parentheses indicate Cronbach's alpha.

Confirmatory Factor Analysis. Next, a confirmatory factor analysis was performed on status satisfaction, similarity, and entitativity to assess discriminant validity. The Chi-Square was significant, although these are often over sensitive ($X^2 = 208.973$, df = 51, $p < .001$). The model

seems to fit the data well, according to the comparative fit index (CFI = .965) while the room mean square error of approximation is also adequate (RMSEA = .078, 90% CI: .068, .090). In sum, this model appears to fit the data well, according to common standards of the CFI (i.e., .95; West, Taylor, & Wu, 2012) and RMSEA (i.e., .06-.08; Hu & Bentler, 1999). Thus, perceptions of similarity, perceptions of entitativity, and status satisfaction have reasonable discriminant validity and internal reliability. Additionally, this indicates that status satisfaction is highly related to perceptions of similarity and entitativity. Therefore, no modifications will be made to the scales, and each will be used in an experimental method in the next study, including the five-item scale measuring status satisfaction. The proposed scale shows appropriate discriminant and convergent validity.

Study 2

Method

Participants

Thirty-five online Zoom groups (113 individual participants) were recruited from The University of North Carolina at Charlotte through a mass email sent to all undergraduate and graduate students (M_{age} = 24.10, SD = 6.58). The same attention checks in Study 1 were administered in Study 2. Three participants were removed from the data after failing the attention checks (1; final sample N = 110). Participants were given a $10 gift card to Amazon upon completion of the study.

The sample had a slight gender bias with more females (67.3%) than males (32.7%), while no individuals identified as Other. Additionally, the sample was 45.5% White, 19.1% Asian, 17.3% Black, 6.4% as Latino/Hispanic, 1% American Indian/Alaska Native, and 10% as Other.

Measures

The measures used for status satisfaction, similarity, and entitativity in Study 1 were used in Study 2.

Status. Status will be measured using Whitmeyer's (2003) status equation model. In this method, each participants' status was a value relative to other participants in the group (Whitmeyer, 2003). Whitmeyer's (2003) model uses the sum of advantaged or disadvantaged characteristics for each person in the group. A given characteristic is determined to be advantaged or disadvantaged based on the current context of the given society (Berger et al., 1980; Howell et al., 2015). For example, whites and men are considered advantaged currently in America, while other ethnicities and women are considered disadvantaged (Howell et al., 2015).

Status is only present in groups with heterogeneous diffuse characteristics. For example, if all the participants are black men, then this counts as neither advantaged nor disadvantaged because there is no apparent difference among members (Whitmeyer, 2003). Lastly, these values were transformed into an expectation states standing value, which are values ranging from 0-1 based on the relative status distribution in the group.

Participation. Participation was measured by the proportionate amount each group member spoke. Three Research Assistants timed how long each participant spoke during the study. This number was then turned into a proportioned scale (e.g., each participant was assigned a value that represented the proportion of time that they spoke during the experiment compared to others in the group). Taking the proportionate amount of time each participant spoke is a better representation compared to the total amount in seconds each participant speaks because some groups finished the task more quickly than others.

Controls. I also controlled for a number of variables, such as attractiveness, age, the presence of an accent (with accent being a disadvantage), and academic major. Each of these were measured on a dichotomous, advantaged or disadvantaged scale similar to gender and ethnicity. Science, Technology, Engineering, and Mathematics (STEM) are considered to be advantaged, while Fine Arts are considered to be disadvantaged. Further, Humanities and Social Science majors will be considered equal to each other, advantaged to Fine Arts majors, and disadvantaged to STEM majors. Additionally, attractiveness was coded as advantaged (e.g., highly attractive relative to other group members) or disadvantaged (e.g., not highly attractive) by two Research Assistants. The presence of an accent was also coded (present versus not present). Thus, each construct will be controlled for by operationalizing each variable as

advantaged or disadvantaged (presence of an accent = disadvantaged, highly attractive = advantaged).

Procedure

After receiving the recruitment email about a study seeking to improve online classes (see Appendix C), participants clicked a link within the recruitment email to indicate interest in participating. Through the link, participants provided informed consent and completed the Mini-IPIP survey, which is a shortened version of the Big 5 personality test. These items were not used in the current study. At the end of the survey, they provided their availability during a given week, which Undergraduate Research Assistants used to schedule the participants for an online Zoom meeting.

Participants joined their Zoom meeting with two-four other participants, while an experimenter facilitated the meeting (i.e., three-five participants total). Zoom meetings were randomly assigned to one of three conditions. In the "similar" condition, participants were told that we had "analyzed their responses in the initial survey" and that they had been placed in this group because this group is "similar, and solves problems in similar ways, which is helpful for good group work." A "dissimilar" condition used the same script, except participants were told that they were "dissimilar, and solves problems in dissimilar ways, which is helpful for good group work" (see Appendix D for scripts). In a control condition, the experimenter did not mention participants' similarities or dissimilarities.

Next, participants were instructed to share their names and academic majors in an icebreaker task. Second, participants were told that the focus of this exercise was to brainstorm ways to improve online classes. They were asked to first brainstorm on their own for five minutes. When they finished, participants were told to discuss each of their ideas as a group and

rank their ideas from best to worst in a Google Document that the researcher provided to them. The experimenter entered a breakout room to leave the participants to discuss as a group. After this 20-minute interaction, a survey was administered, which included each scale described above (i.e., status satisfaction, similarity, and entitativity) in addition to basic demographic information.

Results

Descriptive statistics. Means and standard deviations of all variables are reported below in Table 4. Cronbach's alpha was also assessed to test the reliability of each scale. While status satisfaction and entitativity are above the desired .7, Cronbach's alpha of .630 for similarity seems to suggest that this scale may be unstable and unreliable. However, no changes were made to the scale.

Table 4

Means, standard deviations, and correlations for all Study 2 variables

Variable	M	SD	1	2	3	4	5
1. Status Value	.300	.141					
2. Participation	.303	.075	.35**				
3. Status Sat.	6.37	.755	-.04	.07	(.89)		
4. Similarity	6.33	.679	-.01	.06	.75**	(.63)	
5. Entitativity	6.22	.839	-.01	-.02	.74**	.66**	(.81)

Note. *M* and *SD* represent the mean and standard deviation, respectively. Status satisfaction, similarity, and entitativity range from 1-7. Participation represents the proportion of time each participant spoke during the group interaction.** indicates $p < .01$. Numbers in the parentheses indicate Cronbach's alpha.

Correlations. To investigate H1 (i.e., status predicts participation), a Pearson correlation was performed. As predicted, a significant relationship exists ($r(110) = .351, p < .001$. To investigate RQ1, a second correlation was performed to examine the relationship between status

value and status satisfaction. No relationship was found, $r(110) = -.043$, $p = .654$. Lastly, a third correlation was conducted examining the relationship between participation and status satisfaction (RQ2). This was nonsignificant as well, $r(110) = .067$, $p = .488$. Therefore, H1 was confirmed, while RQ1 and RQ2 show in significant relationships.

ANOVAs. A series of one-way ANOVAs were performed to examine the effect of the similarity manipulation on status satisfaction (H2), similarity (H3a), and entitativity (H3b), respectively. Although H2 approaches significance, the prediction does not reach significance [$F(2, 107) = 2.51$, $p = .086$. Additionally, no significance was found for H3a [F (2, 107) = 1.95, $p = .15$] or H3b [$F(2, 107) = .315$, $p = .73$]. Thus, no support is found for H2, H3a, or H3b.

Path Analyses. Three separate path analyses were performed to examine the model for each condition. This means that H4-10 were tested for each condition. Additionally, to investigate H4b, H5b, and H7b, the coefficients of the relationships were compared (across models) by converting the coefficients to z-scores. The control model refers to the path analysis for the control condition. The similar model refers to the path analysis for the similar condition. The dissimilar model refers to the path analysis for the dissimilar condition. Additionally, the control variables (age, the presence of an accent, academic major) were determined to not add predictive ability to the models and were therefore excluded from the analyses.

Control model. The Chi-square is insignificant ($X^2 = 0.58$, df = 2, $p = .749$), which suggests the model fit the data well. Additionally, the CFI (1.00) and RMSEA (.00; 90% CI: .00, .22) suggest a good global fit as well.

See Figure 2 for standardized coefficients for the control model (coefficients reported in text are unstandardized). The relationship between status and status satisfaction (H4) was nonsignificant ($\beta = .004$, $p = .969$). Status predicted participation, which confirms H5, but the p

value reaches exactly 0.05 (β = .522). Contrary to H6, participation did not predict status satisfaction (β = .098, p = .872). Similarity predicted entitativity (H9; β = 1.08, p = .031) and status satisfaction (H8; β = .803, p < .001) but not participation (H7; β = .013, p = .662). Lastly, entitativity predicts status satisfaction (H10; β = .358, p = .031).

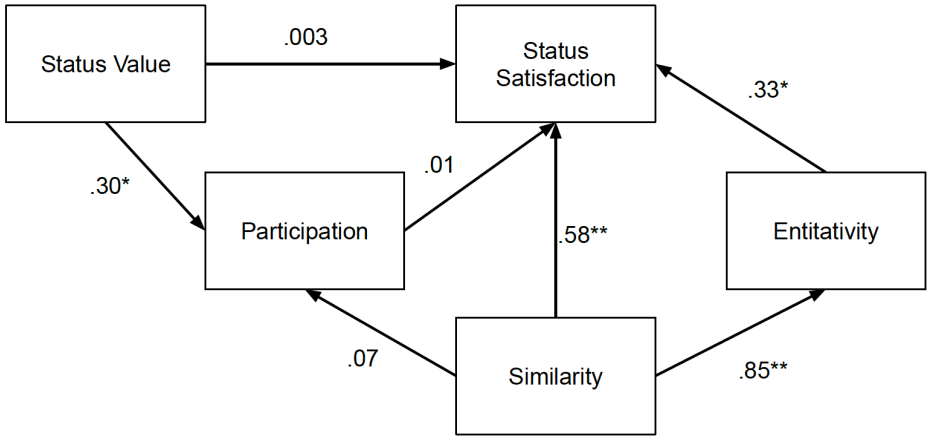

Figure 2. Control model standardized coefficients. ** indicates p < .01, * indicates p < .05.

Similar model. The Chi-square was nonsignificant (X^2 = 2.36, df = 2, p = .307), which suggests the model fit the data well. Additionally, the CFI (.993) and RMSEA (.071; 90% CI: .00, .346) suggest a good global fit also.

See Figure 3 for standardized coefficients for the similar model (coefficients reported in text are unstandardized). The relationship between status and status satisfaction is insignificant (H4; β = -.387, p = .668). Unlike the control model, status fails to predict participation in the similar model (H5; β = .821, p = .067). Participation does not predict status satisfaction (H6; β = .450, p = .175). Additionally, similarity predicts entitativity (H9; β = .567, p = .002) and status satisfaction (H8; β = .410, p = .001) but not participation (H7; β = -.006, p = .883). Lastly, entitativity predicts status satisfaction (H10; β = .363, p < .001).

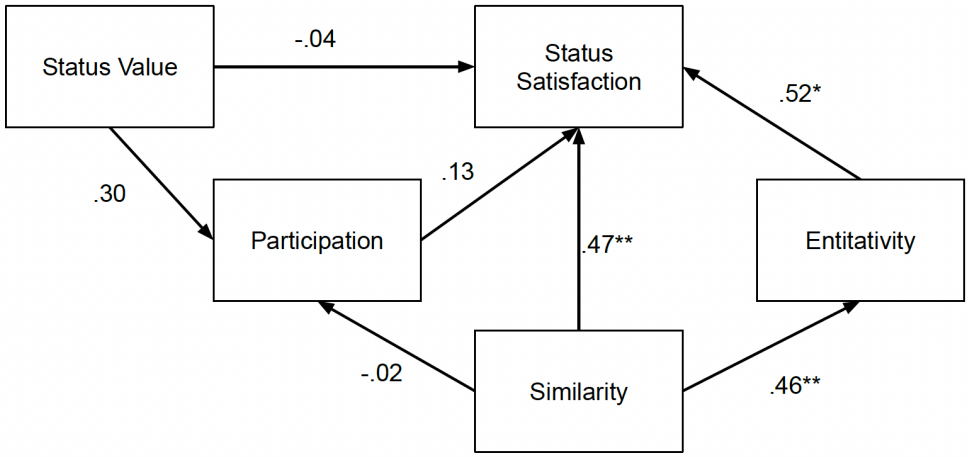

Figure 3. Similar model standardized coefficients. ** indicates $p < .01$, * indicates $p < .05$.

Dissimilar model. The Chi-square is insignificant ($X^2 = 1.29$, df = 2, $p = .526$), which suggests the model fit the data well. Next, the CFI (1.00) and RMSEA (.00; 90% CI: .00, .29) suggest a good global fit.

See Figure 4 for standardized coefficients for the dissimilar model (coefficients reported in text are unstandardized). In the dissimilar model, status predicts status satisfaction (H4; $\beta = -1.764$, $p = .034$), while the relationships are insignificant in the other models. Additionally, status predicts participation (H5; $\beta = .621$, $p = .007$). Participation does not predict status satisfaction (H6; $\beta = .478$, $p = .380$), however. Like the other models, similarity predicts status satisfaction (H8; $\beta = .312$, $p = .01$) and entitativity (H9; $\beta = .811$, $p = .001$) but not participation (H7; $\beta = .030$, $p = .280$). Lastly, entitativity predicts status satisfaction (H10; $\beta = .309$, $p = .001$).

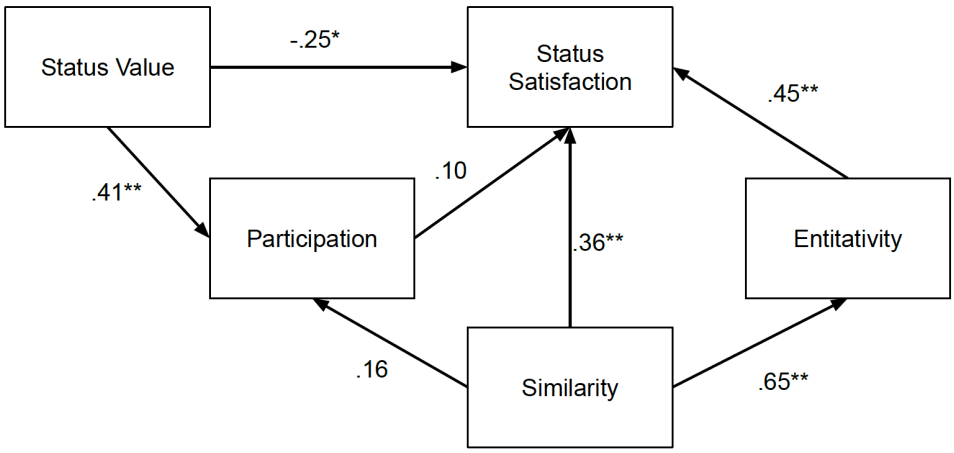

Figure 4. Dissimilar mode standardized coefficients. ** indicates $p < .01$, * indicates $p < .05$.

Testing the hypotheses. H4 (i.e., that status predicts status satisfaction) was significant in the dissimilar condition, but not in the similar and control conditions. This suggests that in the dissimilar condition, high-status group members tend to have lower status satisfaction, while low-status group members have higher status satisfaction.

H5 (i.e., that status predicts participation) was significant in the dissimilar condition and the control condition, but not in the similar condition, which suggests moderate support for the prediction. This means that in the dissimilar and control conditions, group members who were high-status participated more than group members who were low-status. This was not the case in the similar condition, which suggests that the relationship between status and participation disappears when a group is framed as similar. Thus, groups framed as similar tend to participate in ways that aren't based on their ethnicity and gender. This supports my theoretical argument.

H6 (participation predicts status satisfaction) and H7 (similarity predicts participation) were insignificant across all conditions. Thus, H6 and H7 received no support. This suggests that status satisfaction is not a function of one's participation, contrary to predictions.

H8 (similarity predicts status satisfaction) was significant across all conditions, which confirms the predicted relationship between similarity and status satisfaction. Additionally, H9 (similarity predicts entitativity) and H10 (entitativity predicts status satisfaction) are highly significant across all conditions. H9's confirmation replicates previous research on entitativity's antecedents (Blanchard et al., 2020), while H10 shows new support for the relationship between entitativity and status satisfaction.

Differences in strength across experimental conditions. To test H4b (i.e., the difference in strength of the relationship between status and status satisfaction across conditions), the coefficients were transformed to z-scores for each condition. The relationship between status and status satisfaction is statistically different in the similar model (standardized β = - 0.04) compared to the dissimilar model (standardized β = -0.25; z = 3.43, $p <$ .001). However, this relationship is not statistically different when comparing the similar model to the control model (standardized β for control model = -0.003; z = 0.21, p = .834). Lastly, when comparing this relationship between the control model and the dissimilar model, the difference is significant (z = 3.78, $p <$ .001). Thus, the relationship between status and status satisfaction is strongest in the dissimilar condition, but in the opposite direction as predicted (i.e., a positive relationship was predicted).

The same technique was used to test H5b (i.e., the strength of the relationship between status and participation across conditions). It will be recalled that the relationship between status and participation was significant in the dissimilar (p = .007) and control model (p = .05) but not in the similar model (p = .067). However, this relationship was not statistically different between similar model and the control model (z = -.58, $p >$ .05) or the similar model and the dissimilar model (z = -1.21, $p >$ .05). Thus, while the relationship between status and participation appears

to differ across conditions (which is in line with predictions), it is not statistically different between conditions.

Lastly, H7b (i.e., the strength of the relationship between similarity and status satisfaction across conditions) was examined. The relationship is not statistically different when comparing the similar model to the dissimilar model ($z = -1.27$, $p > .05$) or the dissimilar model to the control model ($z = -.630$, $p > .05$). However, the relationship between similarity and status satisfaction in the control model is stronger than in the similar model ($z = -1.69$, $p = .046$), although this is close to insignificance. This shows mixed support for my predictions regarding similarity and status satisfaction.

Additional Analyses

A path analysis was conducted to assess the research model with all the conditions combined (N = 110). Additionally, control variables (i.e., attractiveness, accent, and major) were added to the model to predict status satisfaction and participation. The Chi-squared is not significant ($X^2 = 2.831$, df = 5, $p = .726$), which suggests the model fit the data well. Moreover, the CFI (1.00) and the RMSEA (.00) indicate a reasonable global fit as well (90% CI: .00, .097).

Each hypothesis will be examined (See Figure 5 for the unstandardized coefficients). H4, status predicts status satisfaction, was not significant ($p = .375$; unstandardized B = -.52). H5, status predicts participation, was significant ($p < .001$; unstandardized B = .67), which confirms H5. H6, participation predicts status satisfaction, was not significant ($p = .337$; unstandardized B = .30). H7, similarity predicts status satisfaction, was significant ($p < .001$; unstandardized B = .50). H8, similarity predicts participation, was not significant ($p = .847$; unstandardized B = .00). H9, similarity predicts entitativity, was significant ($p < .001$; unstandardized B = .82). Lastly, H10, entitativity predicts status satisfaction, ($p < .001$; unstandardized B = .39). Thus, status

significantly predicts participation, similarity significantly predicts entitativity and status satisfaction, and entitativity significantly predicts status satisfaction.

Controls. Attractiveness (p = .282; unstandardized B = -.03), accent (*p* = .081; unstandardized B = - .06), and major (*p* = .725; unstandardized B = .01) were all not significant in predicting participation. Lastly, attractiveness (*p* = .435; unstandardized B = -.07), accent (*p* = .274; unstandardized B = -.12), and major (*p* = .568; unstandardized B = .05) were all not significant in predicting status satisfaction.

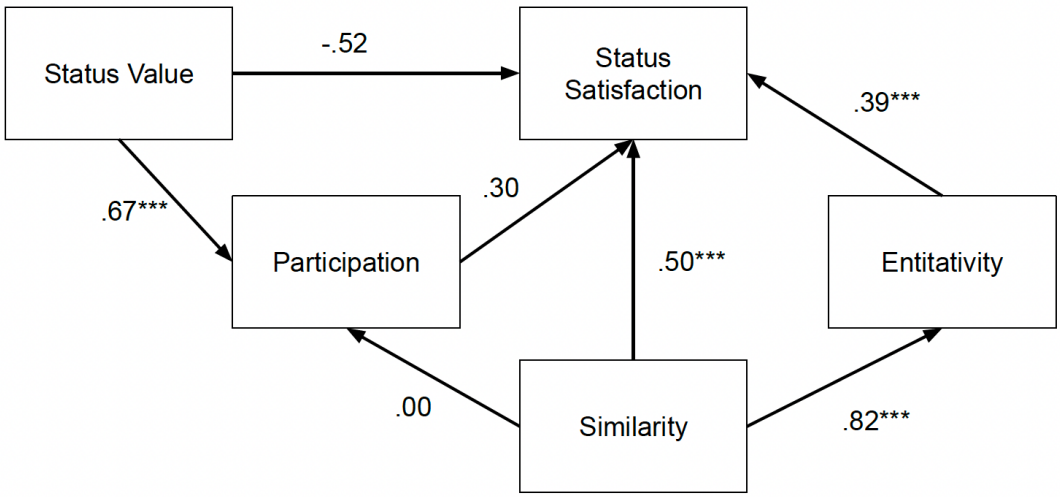

Figure 5. Values are unstandardized coefficients. *** indicates *p* < .001.

Addressing Data Clustering

Since data were collected in groups, there may be data clustering effects. To examine this effect, the intraclass correlation, or ICC(1), was assessed for status satisfaction, participation, similarity, and entitativity within Zoom group clusters. ICC(1) for status satisfaction (.082), similarity (.055), participation (.055), and entitativity (.194) were all below the suggested threshold of .22 for group-level clustering (Scherbaum & Ferreter, 2009).

An additional analysis, the Variance Components Model with random intercepts, was run to assess how much variance at Level 1 (the individuals) was accounted for by Level 2 (the groups). This allows for an estimate of the importance of groups in explaining the variance at the individual level. Three of the dependent variables (status satisfaction with .06%, similarity with .001%, and participation .00%) had close to 0% of the individual variance explained by the groups. Status expectation standing was not analyzed because group-level for this measurement will always equal 1, and will vary depending only on the size of the group. The estimate of individual level entitativity explained by group variance is 4.09 Therefore, I ran another analysis clustered at the group level (with control variables included, predicting participation and status satisfaction).

The Chi-squared is not significant ($X^2 = 3.497$, df = 5, $p = .624$), which suggests the model fit the data well. Next, the CFI (1.00) and the RMSEA (.00) indicate a reasonable global fit. See Figure 6.

Both Figure 5 and Figure 6 report the unstandardized coefficients. Further, the coefficients are identical, which indicates that the relationships are the same between the two models. Therefore, results are not clustered in groups. The data can be analyzed at the individual level.

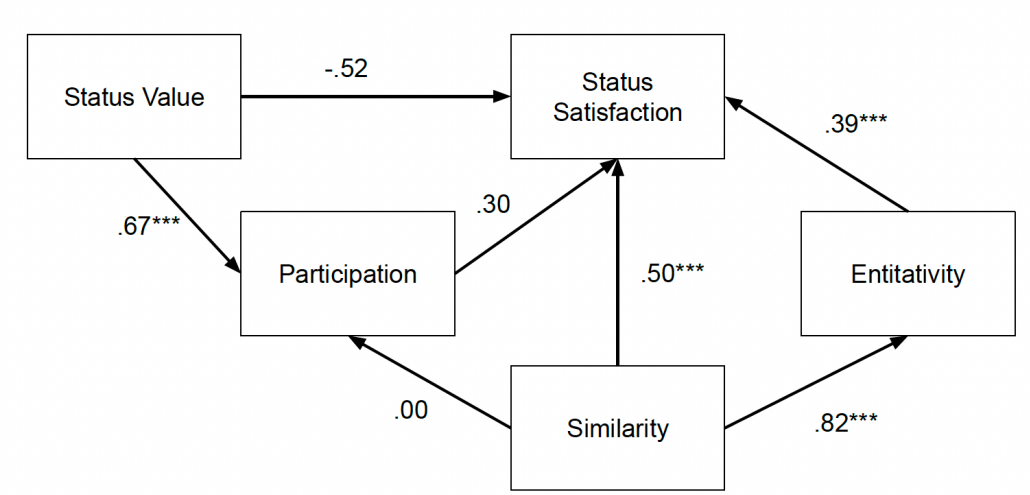

Figure 6. Values are unstandardized coefficients. *** indicates $p < .001$.

Discussion

The first goal of this research was to propose and investigate a measure of a new construct in the expectation states theory literature – status satisfaction (Study 1). The data show that status satisfaction can be considered a unidimensional measure of how satisfied people are with their status and participation after an initial group encounter. Status indeed predicted participation across conditions. This finding was consistent with previous research in the expectation states literature (Correll et al., 2007), such that high-status group members participate and contribute more frequently than low-status group members.

Moreover, status satisfaction appears to fit well among perceptions of similarity and entitativity (Blanchard et al., 2020). This was demonstrated in the confirmatory factor analysis in Study 1 and in the strong relationships between status satisfaction, similarity, and entitativity in Study 2 across each experimental condition.

The second goal of this research was to examine the effect of an increased external similarity on status satisfaction and entitativity (Study 2). The external similarity (i.e., that they solved problems in the same way, an attempt to establish an overarching similarity) did not increase status satisfaction (H2), perceptions of similarity (H3a), or perceptions of entitativity (H3b).

H3a can be conceptualized as evidence of a failed manipulation-check. The manipulation did not have the intended effect on participants, which leaves room for speculation as to the effect the similarity manipulation had on participants. Therefore, the experiment did not have the predicted changes in level of status satisfaction, similarity, or entitativity.

There is evidence, however, that the manipulation did change the way that people interacted in the group. Groups that received information about an overarching similarity within

the group tended to participate in ways that were not based in ethnicity and gender (i.e., status) when compared to groups that were not given the similarity information. As noted earlier, however, this was not statistically different across conditions. In the control and dissimilar conditions, however, participation was predicted by status level.

Another relationship that changed across conditions was between status and status satisfaction. In groups who were presented with information that they were "different" from one another, status was negatively associated with status satisfaction. Although this is contrary to predictions, it suggests that those who are high status (based on their ethnicity and gender) become dissatisfied with their status when the group "difference" is framed as a positive (e.g., difference is good for good group work). This means that low-status people tended to become more satisfied with their status and high-status people tended to become less satisfied with their status when the group was presented as dissimilar.

Lastly, the relationship between similarity and entitativity remains strong, replicating previous findings in the entitativity literature and further establishing similarity as an antecedent to entitativity (Campbell, 1958; Blanchard et al., 2020; Hamilton & Sherman, 1996). In addition, this study demonstrates that similarity and entitativity have strong relationships to status satisfaction. Moreover, the significant relationship between status satisfaction and similarity (H8) and entitativity (H10) suggest that perceiving oneself as a member of a "similar, strong group" with high entitativity strengthens status satisfaction.

Limitations

One limitation to Study 2 is that it is likely underpowered. The failed manipulation check indicates that the effect of the manipulation is small and perhaps would benefit from a larger sample. Although perceptions of similarity may reach statistical significance with a larger

sample, this issue weakens the validity of the experimental manipulation and one of the goals of this research. Additionally, it is possible that the manipulation simply failed because the execution of the manipulation was too subtle.

A second limitation is the measurement of participation (i.e., measuring how long each participant speaks during the group task). While previous research noting status' relationship to participation is abundant (Correll & Ridgeway, 2003; Correll et al., 2007), other operationalizations could be used, such as measuring how many times a person is interrupted. This alternative measurement (i.e., the number of times one is interrupted by others in the group) could be an important predictor of status satisfaction because it would capture the intent to participate, as opposed to my measure, which only explores the extent to which group members speak during group interactions.

A third limitation is that Whitmeyer's status equation model does not consider intersectionality effects (2003). Since Whitmeyer's model intends to model status based on one's available information (e.g., their race, gender, etc.), it is reasonable to consider the overlapping effects of one's gender and ethnicity. However, Whitmeyer's model fails to take this into account, and thus is not a perfect representation of one's modeled status (2003). Examining this difference could shine light on such compounding, double-minority effects.

A fourth limitation is that the research design (i.e., an online task group) may lack psychological realism. It is possible that in small task groups, group members feel satisfied with their status no matter their status position because participation in the group is low-stakes, whereas someone in an applied setting (e.g., a workgroup) may take their status more seriously, and thus their status satisfaction may vary depending on their status in the group because group interactions take place over long periods of time, as opposed to a one-time novel group. In other

words, the effect size may be stronger in long-term groups compared to this novel, short-term group.

Future Directions

There are a number of potentially fruitful options in extending this line of research. First, status satisfaction should be explored in other settings (e.g., the workplace). Status satisfaction is particularly important in workplace settings because of the salient status differences that are often prevalent. Status differences over a long period of time could have stronger effects on status satisfaction than in novel groups. These status differences would likely be based less on ethnicity and gender and more on specific status characteristics (Correll & Ridgeway, 2003). Thus, a study investigating these relationships in strongly established groups could be fruitful.

A second extension of this study could explore different group behaviors to predict status satisfaction. While operationalizing interruptions was previously mentioned as a potential measure, one could imagine a number of others, such as non-verbal communications (e.g., head nods from others) or negative versus positive verbal feedback from the group after one speaks. These variations could capture the behavioral interactions that influence status satisfaction better than the one used in the present study.

Differences in the relationship between status and participation across conditions suggest that status-based participation is malleable. Thus, future research could explore other ways to "level the playing field" by replicating the influence of similarity or exploring other related constructs' influence, such as views towards diversity.

Lastly, future research should examine potential cross-level effects of entitativity on status satisfaction. It is possible that for long-term groups, entitativity (on the group-level) could act as a buffer to negative group outcomes (on the individual level), such as low status

satisfaction. This possible since entitativity leads to other positive outcomes, like cohesion (Igarashi & Kashima, 2011; Ip, Chiu, & Wan, 2006).

Conclusions

This study took the first step in filling a gap in the status literature by exploring a psychological response to being ascribed low-status. Since status configurations are ubiquitous, examining status satisfaction further could have meaningful contributions to organizational and social psychology. Although group functioning and group processes are undoubtably influenced by status in nearly all groups (Webster, 2003; Berger et al., 1972), little research has explored the psychological affect that one might experience when labeled low- or high-status.

Continuing this work is particularly important in understanding how high- to low-status interactions within groups. Since ethnicity minorities and women are often labeled as low-status in groups based on societal-level stereotypes (Cuddy et al., 2007; Howell et al., 2015: Correll et al., 2007), investigating this construct could shine more light on the acute and chronic psychological harm that is caused by gender and ethnic stereotypes and prejudice.

References

Anderson, C., Srivastava, S., Beer, J. S., & Spataro, S. E. (2006). Knowing your place: Self-perceptions of status in face-to-face groups. *Journal of Personality and Social Psychology, 91*(6), 1094-1110. doi: 10.1037/0022-3514.91.6.1094

Bendersky, C., & Hays, N. A. (2017). The positive effects of status conflicts in teams where members perceive status hierarchies differently. *Social Psychological and Personality Science, 8*(2), 124-132. doi: 10.1177/1948550616667614

Bendersky, C., & Hays, N. A. (2012). Status conflict in groups. *Organization Science, 23*(2), 323-340. doi: 10.1287/orsc.1110.0734

Berger, J., Cohen, B. P., & Zelditch, M. (1972). Status characteristics and social interaction. *American Sociological Review, 37*(3) 241-255. Doi: 10.2307/2093465

Berger, J., Rosenholtz, S. J., & Zelditch, M. Jr. (1980). Status organizing processes. *Annual Review of Sociology, 6*, 479-508. doi: 10.1146/annurev.so.06.080180.002403

Berger, J., Fiske, M. H., Norman, R. Z., & Zelditch, M., Jr. (1977). Status characteristics perspective. *Administrative Science Quarterly, 48*, 557-591. doi: 10.2307/3556637

Blanchard, A. L., Caudill, L. E., & Walker, L. S. (2020). Developing an entitativity measure and distinguishing it from antecedents and outcomes within online and face-to-face groups. *Group Processes & Intergroup Relations*, 1-18. doi. 10.1177/1368430217743577

Bliese, P. D. (2013). Multilevel Modeling in R (2.5).

Campbell, D. T. (1958). Common fate, similarity, and other indices of the status of aggregates of person as social entities. *Behavioral Scientist, 3*(1), 14–25. doi: 10.1002/bs.3830030103

Correll, S. J., Benard, S., & Paik, I. (2007). Getting a job: Is there a motherhood penalty? *American Journal of Sociology, 112*(5), 1297-1339

Correll, S. J. & Ridgeway, C. L. (2003). "*Expectation States Theory*." Pp. 29-51 in Handbook of Social Psychology, edited by John Delamater. New York: Kluwer Academic Press.

Cuddy, A. J., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality and Social Psychology, 92*(4), 631-48. doi: 10.1037/0022-3514.92.4.631

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*(6), 878-902. doi: 10.1037/0022-3514.82.6.878

Gaertner, S. L., Dovidio, J. F., Banker, B. S., Houlette, M., Johnson, K. M., & McGlynn, E. A. (2000). Reducing intergroup conflict: From superordinate goals to decategorization, recategorization, and mutual differentiation. *Group Dynamics: Theory, Research, and Practice, 4*(1), 98-114. doi: 10.1037/1089-2699.4.1.98

Gaertner, L., Iuzzini, J., Witt, M. G., & Orina, M. M. (2006). Us without them: Evidence for an intragroup origin of positive in-group regard. *Journal of Personality and Social Psychology, 90*, 426-439. doi: 10.1037/0022-3514.90.3.426

Guillaume, Y. R., Dawson, J. F., Woods, S. A., Sacramento, C. A., West, M. A. (2013). Getting diversity at work to work: What we know and what we still don't know. *The British Psychological Society, 86*, 123-141. doi: 10.111/joop.12009

Guillaume, Y. R., Dawson, J. F., Otaye-Ebede, L., Woods, S. A., & West, M. A. (2017). Harnessing demographic differences in organizations: What moderates the effects of workplace diversity? *Journal of Organizational Behavior, 38*(2),276-303. doi: 10.1002/job.2040

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate data analysis: Advanced diagnostics for multiple regression* [Online supplement]. Retrieved from http://www.mvstats.com/Downloads/Supplements/Advanced_Regression_Diagnostics.pdf

Hall, J. A., & Friedman, G. B. (1999). Status, gender, and nonverbal behavior: A study of structured interactions between employees of a company. *Personality and Social Psychology Bulletin, 25*(9), 1082-1091. doi: 10.1177/014672992512002

Hamilton, D. L., & Sherman, S. J. (1996). Perceiving persons and groups. *Psychological Review, 103*(2), 336–355. doi: 10.1037/0033-295X.103.2.336

Harrison, D. A., Price, H. K., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *Academy of Management Journal, 41*(1), 96-107.

Hays, N. A., & Bendersky, C. (2015). Not all inequality is created equal: The effects of status versus power hierarchies on competition for upward mobility. *Journal of Personality and Social Psychology, 108*(6), 867-882. doi: 10.1037/pspi0000017

Hewstone, M., Martin, R., Hammer-Hewstone, C. Crisp, RJ, & Voci A. (2001). *Minority-majority relations in organizations: Challenges and opportunities*. In Social Identity Processes in Organizational Contexts, ed. MA Hogg, DJ Terry, pp. 67-86. Philadelphia, PA: Psychol. Press

Hornsey, M. J. (2008). Social identity theory and self-categorization theory: A historical review. *Social and Personality Psychology Compass, 2*(1), 204–222. doi: 10.1111/j.1751-9004.2007.00066.x

Howell, T. M., Harrison, D. A., Burris, E. R., & Detert, J. R. (2015). Who gets credit for input? Demographic and structural status cues in voice recognition. *American Psychological Association, 100*(6), 1765-1784.

Hu, L. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*, 1-55.

Igarashi, T., & Kashima, Y. (2011). Perceived entitativity of social networks. *Journal of Experimental Social Psychology, 47*(6), 1048-1058. doi: 10.1016/j.jesp.2011.04.008

Ip, G. W., Chiu, C., & Wan, C. (2006). Birds of a feather and birds flocking together: Physical versus behavioral cues may lead to trait- versus goal-based group perception. *Journal of Personality and Social Psychology, 90*(3), 368–381. doi: 10.1037/0022-3514.90.3.368

Lickel, B., Hamilton, D., Lewis, A., Sherman, S., Wieczorkowska, G., & Uhles, A. (2000). Varieties of groups and the perception of group entitativity. *Journal of Personality and Social Psychology, 78*(2), 223-245. doi: 10.1027/0022-3514.78.2.223

Manata, B. (2019). Investigating the impact of racial diversity in decision-making groups: The moderating role of relationship conflict. *Negotiation and Conflict Management Research*, doi: 10.1111/ncmr.12173

McMillan, J. H. & Schumacher, S. (2001). Research in education: A conceptual introduction. New York: Longman.

Overbeck, J. R., Correll, J., & Park, B. (2005). Internal status sorting in groups: The problem of too many stars. *Research on Managing Groups and Teams.* doi: 10.1016/S1534-0856(05)07008-8

Pelled, L., Eisenhardt, K., & Xin, K. (1999). Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly, 44*(1), 1-28. doi: 10.2307/2667029

Phillips, K. W., Rothbard, N. P., & Dumas, T. L. (2009). To disclose or not to disclose? Status distance and self-disclosure in diverse environments. *Academy of Management Review, 34*(4), 710-732

Ridgeway, C. L. (2014). Why status matters for inequality. *American Sociological Review, 79*(1), 1-16. doi: 10.1177/0003122413515997

Ridgeway, C. L., Berger, J., & Smith, L. (1985). Nonverbal cues and status: An expectation states approach. *American Journal of Social Psychology, 41*, 501-507. doi: 10.1002/ejsp.814

Roberson, Q. M. (2019). Diversity in the workplace: A review, synthesis, and future research agenda. *Annual Review of Organizational Psychology and Organizational Behavior, 6*(1), 69-88. doi: 10.1146/annurevorgpsych-012218-015243

Scherbaum, C. A., & Ferreter, J. M. (2009). Estimating statistical power and required sample sizes for organizational research using multilevel modeling. *Organizational Research Methods, 12*(2), 347-367

Smith, R. A. (2002). Race, gender, and authority in the workplace: Theory and research. *Annual Review of Sociology, 28*, 509-542. doi: 10.1146/annurev.soc.28.110601.141048

Smith-Lovin, L., & Brody, C. Interruptions in group discussions: The effects of gender and group composition. *American Sociological Review, 54*(3), 424-435. doi: 10.2307/2095614

Sung, S., & Choi, J. (2019). Effects of diversity on knowledge sharing and creativity of work teams: Status differential among members as a facilitator. *Human Performance, 32*(3-4), 145-164. doi: 10.1080/08959285.2019.1639712

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology, 1*, 149-178. doi: 10.1002/ejsp.2420010202

Thomas-Hunt, M. C., & Phillips, K. W. (2004). When what you know is not enough: Expertise and gender dynamics in task groups. *Personality and Social Psychology Bulletin, 30*, 158501598. doi: 10.1177/0146167204271186

Toseland, R. W. & Rivas, R. F. (2012). *An introduction to group work practice.* Boston: Pearson Allyn & Bacon.

Van Dejk, H. & Van Engen, M. (2013). A Status perspective on the consequences of workgroup diversity. *Journal of Occupational and Organizational Psychology, 86*(2), 223-241. doi: 10.1111/joop.12014

van Knippenberg, D., De Dreu, C. K., & Homan, A. C. (2004). Workgroup diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology, 89*,1008-1022. doi: 10.1037/0021-9010.89.6.1008

Webster, M. (2003). "WORKING ON STATUS PUZZLES", Thy, S. R., and Skvoretz, J. (Ed.) *Power and Status (Advances in Group Process, vol. 20)*, Emerald Group Publishing Limited, Bingley, pp. 173-215. doi: 10.1016/S0882-6145(03)20007-2

West, S. G., Taylor, A. B., & Wu, W. (2012). Model fit and model selection in structural equation modeling. In Hoyle, R. H. (Ed.), Handbook of structural equation modeling (pp. 209-231). New York, NY: Guildford Press.

Whitmeyer, J. M. (2003). The mathematics of expectation states theory. *Social Psychology Quarterly, 66*(3), 238-253

Williams, K. Y. & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. In B. M. Staw & R. I. Sutton (Eds.), *Research in Organizational Behavior, vol. 20* (pp. 77-140). New York: Elsevier/JAI

Appendix A

Status Satisfaction: Likert-type scale (1 = Strongly disagree, 7 = Strongly agree)

W1. I am satisfied with my status in the group.

W2. I am satisfied with my position in the group.

L1. I am satisfied with how much others listened to me in the group.

L2. I am satisfied with how much I was able to speak.

C1. I feel satisfied with how others perceived my contributions to the group.

C2. I feel satisfied with the acknowledgment I received for my contributions.

C3. I feel satisfied with how much my ideas were received by others in the group.

I1. I am satisfied with my influence in the group.

I2. I am satisfied with how my opinions were received.

I3. I am satisfied with how much I was considered in decisions.

Items italicized indicate the items that were chosen for the shorten version of the scale. "W" represents items measuring one's satisfaction with the *whole* construct. "L" represents questions measuring one's satisfaction with the amount others listened. "C" represents questions measuring satisfaction with one's own contributions to the group. "I" represents one's satisfaction with the amount of influence they had over group decisions. These focuses

Appendix B

Similarity: Likert-type scale (1 = Strongly disagree, 7 = Strongly agree)

- We are alike.
- We have similar attitudes.
- We have similar values.
- We see things much in the same way.

Interactivity: Likert-type scale (1 = Strongly disagree, 7 = Strongly agree)

- We respond to each other's messages.
- We interact with each other in these messages.
- We communicate with each other.
- We spend time interacting.
- We build on each other's thoughts and ideas.

Entitativity: Likert-type scale (1 = Strongly disagree, 7 = Strongly agree)

- We are a unit.
- We are a group.
- We feel like a group to me.

Appendix C

Subject: Online Group Research to Improve Online Teaching

Do you want to quickly earn a $10 Amazon gift card? We are looking for volunteers to participate in our study. We are seeking to understand what makes groups work well together. The study will only take about 45 minutes, and you will receive an Amazon gift card for your participation!

We invite all UNC Charlotte students, 18 years or older to participate in this study. If you choose to participate, you will work in a group of 3-5 people. You will participate in an online Zoom group and will have the task to create a list of recommendations to improve UNC Charlotte for our students. Participation also includes a short survey asking you about your experiences with and attitudes about the group you completed the task with, as well as your demographic information. Participation is limited to once per person.

If you are interested, please click the link below for a short survey. After this, we will email you about participating in the Zoom group.

Survey Link: http://uncc.qualtrics.com/jfe/form/SV_b8H1WmSg4Deo5Y9

This research has been approved by the IRB19-0625.

Questions can be directed to
Dr. Anita Blanchard
Anita.Blanchard@uncc.edu
704.687.1321 ext 1

Appendix D

Similar Manipulation:

We put you together as a group based on information from your initial survey. We matched you because of the similar skills and perspectives you bring on working in groups. We analyzed the surveys you filled out during screening and know that you perceive online interactions very similarly and these similarities are important for good group work.

Dissimilar Manipulation:

We put you together as a group based on information from your initial survey. We matched you because of the dissimilar skills and perspectives you bring on working in groups. We analyzed the surveys you filled out during screening and know that you bring unique and different perspectives about online interactions, which is important for good group work.

Appendix E

Full Experimental Script:

Introduction

Hello and welcome to the group's activity. Thank you all for agreeing to participate today. First, can everyone place their microphones on mute for the time being. Next., could you please turn your video on and make sure you are in gallery view?

Now I am going to send you all a google drive folder in the chat. Once you open the folder, click on the document with your name on it. We would like for you to do a split screen so that your zoom is in gallery view on the left, and your google document in on your right. Let me know once you all have completed this.

Before we get started, we want to do an ice-breaker so that you can get to know each other a little bit better. Every please share your major and favorite type of ice cream with each other.

Describing Step 1: Brainstorming Exercise

Great. Now I'm going to describe a little bit about this exercise. One of the purposes of this exercise is to help us understand how online groups interact and work together. The other purpose of this exercise is to develop real solutions for online teaching here at UNC Charlotte.

Because of the pandemic and our recent increase in online teaching, we believe that students can provide valuable insights into what is working and what is not. We can these best practices and we want to be able to share them with professor share at UNC Charlotte.

Okay, we will start with a brainstorming exercise. First, we're going to have each of you individually write down as many good ideas as you can for improving online teaching. Type these in the google document that we shared with you. Remember there are a lot of different classes and a lot of different types of students, so there may be a variety of ideas and best practices you all can come up with.

You will have five minutes to brainstorm on your own. Like I said, try and write down as many ideas for improving online classes as you can. I will leave for a breakout room and come back when your time is up. Does anyone have any questions? If not, I'll be back in five minutes.

RA leaves for breakout room and comes back after five minutes

Describing Step 2: Group Interaction

Does everyone have their ideas in their google document? Okay great. Now we would like for you to discuss and rank each of these ideas as a group. Place the agreed upon best ideas at the top of the google document titled “group list”, which can be found in the google folder sent in the Zoom chat. You have twenty minutes to rank your ideas from best to worst. I am going to a breakout room so that you can work among yourselves. If you are done before twenty minutes, please send an email to vice-lab@uncc.edu and I will come back to finish the experience. I’ll put this email in the chat.

When I return, I will have a short survey for each of you to fill out. We will also gather your information in order to give you a gift card. Okay, do you have any questions? If not, I will leave this room and go to a breakout room.

RA leaves for breakout room and returns after twenty minutes

Administering The Survey

Hello. Do you have your ideas ranked and in the google document? Now we would like to ask you a few questions about your experience here. There are no right or wrong answers, we just need to know how this went for you. I will send a survey in the chat. Let me know when you are done in the chat.

RA sends survey link via Zoom chat

RA ends experiment once participants complete survey

Appendix F

Study 1 Recruitment Email

Subject: Student Experience in Online Meetings

Dear Student:

We are conducting a study to understand student's experiences in online meetings. If you respond to this study, you will be entered into a drawing to receive one of five $10 Amazon gift cards.

If you have any questions, please contact Leah Bourque, Lbourque@uncc.edu, VICE lab manager about the survey.

To participate in the study, please go to: (link to Qualtrics survey)