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Who should lead? Effective influence as a product of group context and group purpose

By

Nicolas B. Barreto

Claremont Graduate University

2020

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## **APPROVAL OF THE REVIEW COMMITTEE**

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Nicolas B. Barreto as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy in Psychology.

Dr. Michael A. Hogg, Chair  
Claremont Graduate University  
Professor of Psychology

Dr. Eusebio M. Alvaro  
Claremont Graduate University  
Research Professor

Dr. Michelle C. Bligh  
Claremont Graduate University  
Professor of Organizational Behavior

Dr. Cecilia Ridgeway  
Visiting Examiner  
Loc: Stanford University  
Title: Lucie Stern Professor of Social Science

## Abstract

Who should lead? Effective influence as a product of group context and group purpose

By

Nicolas B. Barreto

Claremont Graduate University: 2020

One of the most important features of any group is who is most influential, who leads. Expectation states theory (EST) and the social identity theory of leadership (SITL) both make predictions about which group member will have the most influence. EST argues that group members follow whomever they believe will lead the group to success. SITL states that the individual who best embodies the group's defining attributes has the most influence. This dissertation proposed that influence and leadership in a group are dependent on group features, and it tested two such features: (a) a group's social context and (b) a group's goals. Two studies were conducted. Study 1 focused on the social context of a task group, specifically the presence or absence of a competitive outgroup. Study 2 focused on the type of group, specifically if the group was focused on a particular task or not. Study 1 (N = 216) manipulated group context (intergroup vs. intragroup between-subjects) and had student participants evaluate three ingroup leader options: a representative leader, a leader with social status, and a leader with experience (a three-level within-subjects variable). It was predicted that group members in an intergroup context (vs. intragroup) would be more likely to endorse (H1a) and positively evaluate (H1b) a representative group member over someone with social status in society, who in turn would be rated more positively than someone with task-related expertise. It was found that representative leaders were endorsed the most and rated highest among the leaders. While endorsement was not conditional on group context (failing to support H1a), leader ratings were conditional on the

presence of a competitive outgroup (supporting H1b), however not in the way expected. When an outgroup was present, leaders with expertise were rated as high as representative leaders. Without an outgroup, leaders with expertise were rated significantly lower than representative leaders. Study 2 (N = 217), similar to Study 1, was a 2 (between) by 3 (within) design comparing two types of groups (task-oriented vs. non-task-oriented) and had student participants evaluate three ingroup leader options. When the context was non-task-oriented (compared to task-oriented), group members were expected to show greater endorsement (H2a) and more positive evaluations (H2b) for a representative leader than for a leader with general social status or one with task-related expertise. The results of Study 2 replicated the pattern found in Study 1, but none of the interactions predicting leader rankings or ratings were significant, thus, failing to support either hypothesis.

## Dedication

I dedicate this dissertation to family and closest friends. My partner, Kiera, has provided me with so much support, encouragement, and drive. I also dedicate this work to my parents for being a source of both support and advice. Finally, I want to dedicate this dissertation to my closest friends for being a constant source of motivation and ideas.

## Acknowledgments

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## CHAPTER 1

### Literature Review

When jurors are selected, students work on a group project, or elections are held, who gets selected for leadership? The formation and change of influence hierarchies within groups has been studied in various ways across many different disciplines since, perhaps, the beginning of time. More recently (i.e. over the last century or so), a myriad of factors has been found to determine the influence an individual has in a group (Hogg, 2010).

Common-sense psychology would suggest that it is difficult to distinguish between influence and leadership. Leaders give orders, make requests, define norms, and all around exert influence on their group members. Social psychologists have always been interested in influence – in Gordon Allport's definition of social psychology he states that influence is at the core of the field (Allport, 1954). However, social psychology's interest in leadership specifically has had an off-again-on-again character. Leadership research has enjoyed a more consistent focus in organizational psychology (Yukl, 2013).

Research on social influence in a group context (not to be confused with interpersonal persuasion), covers a wide variety of topics; power and coercion (Raven, 1993; Turner, 2005), majority pressure (Asch, 1956; Milgram, Bickman, & Berkowitz, 1969), submission to authority (Milgram, 1963, 1974), minority influence (Alvaro & Crano, 2017; Moscovici, 1976; Moscovici & Nemeth, 1995), persuasion tactics (Jones & Pittman, 1982), socialization processes (Levine & Moreland, 1994; Moreland & Levine, 1982), informational and normative motivation (Deutsch & Gerard, 1955), and referent informational influence (Abrams & Hogg 1990; Hogg & Turner, 1987; Turner, 1982; Turner & Oakes, 1989).

Research on leadership is just as varied, examining topics such as the charisma of a leader (Avolio & Yammarino, 2003; Conger & Kanungo, 1998), stereotypic/prototypic leader traits (Eagly & Karau, 2002; Heilman 1983; Lord, Foti, & De Vader, 1984; Lord & Hall, 2003), expert or social status of a leader in the group (Berger, Fisek, Norman, & Zelditch, 1977; Berger, Wagner, & Zelditch, 1985; Ridgeway, 2001), personality traits of the leader (Judge, Bono, Ilies, & Gerhardt, 2002), or the representativeness of the leader (Hogg, 2001; Hogg & Van Knippenberg, 2003; Hogg, Van Knippenberg, & Rast, 2012a, 2012b; Van Knippenberg & Hogg, 2003).

Despite the wide variety of both influence and leadership research, leadership is, at its core, a utilization of social influence (Chemers, 2001). Some theories approach leadership, and therefore influence, within groups as a process in which individuals provide genuine leadership to others rather than exercise coercive power over group members (cf. Raven, 1993; Turner, 2005) Two such theories are: (a) expectation states theory (Berger, Rosenholtz, & Zelditch, 1980; Berger, Wagner, & Zelditch, 1985; Ridgeway, 2001) and (b) the social identity theory of leadership (Hogg, 2001; Hogg & Van Knippenberg, 2003; Hogg, et. al., 2012a).

Expectation states theory (EST) argues that influence within small task groups rests on the extent to which the group feels a group member improves the chances that the group will fulfill its task and accomplish its goals, without considering the roles of self and identity. Meanwhile, the social identity theory of leadership (SITL) literature is exclusively concerned with the role played by identity-defining characteristics (group prototypes) in empowering individuals to be influential and occupy a leadership role, without considering how group task-relevant characteristics may interact with prototypicality to affect influence and leadership.

This dissertation seeks to examine the relationship between EST and SITL. First, a general overview of each theory, their main variables of interest, and predictions for social influence will be discussed. The review then covers how the theories differ, and possible means of integration. Specifically, the review proposes that EST and SITL have a hydraulic relationship, one that is dictated by the nature of the group. When the group serves a wider identity function for its members (i.e., more than the completion of a task), how the group is positioned and defined in a wider intergroup comparative context reflects on members' sense of self and thus impacts who sits atop the social hierarchy of the group. When the group simply serves to achieve an end (completing some task(s) or goal(s)), then having skills relevant to that goal will be more important. This theorizing will lead to the outline of two experiments that tested this hypothesis.

### **Expectation States Theory**

EST (Berger et al., 1980, 1985; Correll & Ridgeway, 2006) is a micro-sociological theory based on people's ability to quickly and efficiently develop status hierarchies in small, task-oriented groups (cf. Bales, 1950). People in such groups evaluate (non-consciously) each group member's ability to achieve the group's goals. These evaluations, called performance expectations, are then used (non-consciously) to order group members, including themselves. That order forms the basis of how people decide their own and others' relative status within the group (Driskell & Mullen, 1990; Ridgeway, 2001).

Status characteristics theory (SCT), the primary sub-theory of EST, posits two types of characteristics that people use to form expectations about group members status within the group: specific and diffuse status characteristics (Berger & Conner, 1969; Berger et al., 1977; Correll & Ridgeway, 2006). Specific status characteristics are task-specific skills someone might

have: essentially, the individual's task-related expertise. Specific status characteristics are attributes that make someone, by definition, qualified to perform the group's task. For example, being a computer engineer will improve the expectations others have of an individual if the group task involves building computers. Diffuse status characteristics are the traits of an individual that are not restricted to any specific task. They typically relate to social categories that have consensual expectations in wider society. A person's race (Webster & Driskell, 1978), age (Freese & Cohen, 1973), or education (Moore, 1968) could be used as diffuse characteristics. An example in the United States is gender (see Ridgeway, 2001) - the general expectation is that men are "diffusely" more capable than women at many things.

Status characteristics are societally shared expectations about task-related attributes and about social standing (Berger, Cohen, & Zelditch, 1972; Correll & Ridgeway, 2006; Hembroff, 1982). In any given small interactive group, people create expectations about fellow members based on their specific and diffuse status characteristics. These expectations form a hierarchy in which those associated with the most positive expectations are more influential than those associated with less positive expectations.

Although people can base their expectations on only specific or only diffuse characteristics, they often use both. In this latter situation, individuals with higher diffuse and specific status characteristics are expected to be best able to perform the task – they are placed higher in the social hierarchy and permitted more influence. However, status characteristics can sometimes generate conflicting expectations, such as an individual with favorable specific status characteristics but unfavorable diffuse characteristics. Status inconsistency exists (Berger, Norman, Balkwell, & Smith, 1992), such that the person's place in the hierarchy and ability to

influence will depend on which status characteristic is used or how they are weighted relative one another (Berger, Willer, & Zelditch, 2005; Zelditch, Lauderdale, & Stublarec, 1980).

The basic question of status inconsistency is that individual group members have many potentially applicable characteristics, so which of these characteristics is going to function as a *status* characteristic? Moreover, how are disagreements among the evaluations of those characteristics resolved? Five assumptions form the general basis of the performance expectations of any given set of characteristics: salience, burden of proof, sequencing, aggregation, and translation (Balkwell, 1991; Berger et al., 1992). If a status characteristic distinguishes group members, or members believe the characteristic to be relevant, then that characteristic is salient. Once salient, the burden of proof rests on something (or someone) to explicitly identify the characteristic as *not* relevant to the task (Correll & Ridgeway, 2006). Individual motivations towards the group could dictate which characteristics are considered (i.e., are salient) and valid (i.e., maintain burden of proof).

While EST research suggests that group members are motivated to follow individuals with the highest probability of success, it does not consider other motivations, such as the amount of subjective value the group has for an individual group member. SITL research shows that group members are motivated to follow individuals who embody the defining attributes of a group that is a (contextually) central aspect of a person's sense of who they are – their self and identity. What happens when group members consider both motivations; to succeed and to define themselves? This is the basic question of status inconsistency (Berger, Norman, Balkwell, & Smith, 1992) and is simply another way of asking who ends up with influence, and why.



## **Social Identity Theory of Leadership**

Based on social identity theory (Tajfel & Turner, 1986; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; see Abrams & Hogg, 2010; Hogg, 2018), and its analysis of social identity based influence processes in groups (e.g., Abrams & Hogg, 1990), the SITL is predicated on the precept that leadership serves an identity-defining function for group members (Hogg, 2001; Hogg & Van Knippenberg, 2003; Hogg et al., 2012a).

Where a group membership is relatively important and central to a person's sense of self, it becomes critical to know what the group's context-specific normative attributes are – what the group prototype is. The prototype describes and prescribes how one should behave as a group member and how one will be perceived and treated by others. The most reliable source of information about the prototype is fellow group members who are themselves central and prototypical. When group members wish to adhere to the norms of an important group they look to and mimic the prototypical members; this is known as referent informational influence. Such members are trusted to know the prototype and to be acting in the best interest of the group. Consequently, prototypical members are given latitude by other group members to be normatively innovative (cf. Abrams, Randsley de Moura, Marques, & Hutchison, 2008).

In subjectively important groups, members pay more attention to and are more influenced by those who are prototypical than those who are non-prototypical - members or leaders who are prototypical have greater influence over the group than those who are less prototypical and are thus more effective leaders. This prediction has been supported across scores of studies – for recent conceptual and empirical overview see Hogg et al. (2012a), Van Knippenberg (2011), and for a meta-analysis see Barreto and Hogg (2017).

Some of the first tests of SITL were conducted by Hains, Hogg, and Duck (1997). As predicted from social identity, these authors found that leaders who were prototypical were endorsed more when group salience was high. Platow and Van Knippenberg (2001) replicated Hains and colleagues (1997), finding evidence that ratings of leader prototypicality were positively associated with leader endorsement, and this relationship was moderated by identification with the group. Cicero and colleagues further extended the findings to different leader effectiveness measures (participant work effort), a different population (Italians), and different kinds of groups (organizational work groups; e.g., Cicero, Bonaiuto, Pierro, & Van Knippenberg, 2008). A meta-analysis of 35 independent studies involving 6,678 participants found a large ( $r = .49$ ) relationship between leader prototypicality and leader support. This relationship was even stronger ( $r = .60$ ) among people for whom the group was a more central aspect of their social identity (Barreto & Hogg, 2017).

SITL and EST both make predictions about who will be influential, and those predictions are based on clear, albeit different, individual motivations. Rather than being at odds, the two theories appear to fit together well, each considering motivations and factors that the other does not. Applying both theories may lead to more accurate predictions about the social hierarchy and leadership of a group.

### **Overlap and Integration**

SITL and EST have different answers to the question of who has the most influence and thus occupies a leadership role in groups. For SITL, it is individuals who have traits considered to be normative and representative of the group (i.e. they are group prototypical). For EST, it is individuals who are considered best suited to accomplish the group's task due to the characteristics they possess. A very straightforward question arises - how is co-occurring

information about prototypicality, specific status, and diffuse status weighted to form an impression of a group member as being the group's leader (i.e. influential)? A great deal of work on SITL (Barreto & Hogg, 2017; Van Knippenberg, 2011) and EST (Berger, Wagner, & Webster Jr., 2014, Kalkhoff & Thye, 2006; Thye & Kalkhoff, 2009) independently exists. One way of distinguishing these theories is to consider their key conditions. SITL focuses on different individual motivations of group members, and EST has a clear group context in mind.

Take trust in the leader as an example of the importance of individual motivations to SITL. Group members trust their leader to bring positive results to their group. For SITL, the invocation of trust is a core concept; group members believe that prototypical members have the best interests of the group in mind (Haslam, Reicher, & Platow, 2011; Hogg, et. al., 2012a). Specifically, group members *trust* that a prototypical leader's main motivation is to protect and promote the group (Barreto & Hogg, 2017; Giessner & Van Knippenberg, 2008; Giessner, Van Knippenberg, & Sleebos, 2009). EST, on the other hand, does not consider trust in this sense.

EST is predicated on the idea that status hierarchies form with the success of the group in mind. The formation of relative performance expectations is the basis upon which a hierarchy is formed (Berger et al., 1980, 1985). Individuals must believe that their group members can (and will) perform, "...performance expectations create and maintain a hierarchy of participation, evaluation, and influence among actors..." (Correll & Ridgeway, 2006, p. 31). The more a group member is expected to succeed, the more influence that individual will wield. Performance expectations are as close as EST gets to the concept of trust. There is limited extant research on the importance of individual motivations in EST (Meeussen & Van Dijk, 2016; Ridgeway, 1982).

Another fundamental distinction between EST and SITL is the concept of an outgroup. A consistent finding in SITL research is, as mentioned above, prototypical leaders have more influence over group members who identify more with the group (i.e., Barreto & Hogg, 2018). However, the group's prototype is defined not in terms of ingroup attributes in isolation. Instead, the prototype is defined in the context of outgroup characteristics as well (the principle of metacontrast; e.g., Abrams & Hogg, 1990); thus, the prototype can vary depending on the nature of the outgroup (Abrams, Wetherell, Cochrane, Hogg, & Turner, 1990; Hogg & Turner, 1987; Hogg, Hains, & Mason, 1998).

Meanwhile, EST does not require group members to have a psychological conception of their group in mind. Instead, EST simply requires groups to be a small gathering of individuals who interact and share a common goal. Ingroup status, at best, may serve as a status characteristic. Using diffuse characteristics and minimal group paradigms, Kalkhoff and Barnum (2000) found that ingroup status and status characteristics followed the aggregation principle of EST. Oldmeadow and colleagues found the same additive effects when manipulating status and ingroup vs outgroup membership in different groups (Oldmeadow, Platow, Foddy, & Anderson, 2003).

Given that factors important to SITL (trust and group membership) are not considered by EST, what would happen if both theories were considered at once? Barreto and Hogg (2018) set out to answer this question. Their study was designed to test the prediction that when the group is important for self-definition (i.e., under high group identification), then group prototypicality should be the strongest predictor of leader endorsement. However, when the group is not important (i.e., under low group identification), it was predicted that status characteristics would become more important. Both status characteristics and leader prototypicality were found to have

effects on leader ratings, with higher levels of both predicting higher ratings of leadership effectiveness. Additionally, participants rated prototypical leaders even higher when they identified with the group, while identification had no effect on the relationship between status characteristics and leader evaluations. The observed interaction between prototypicality and identification (and lack thereof for status characteristics) lends some support to a hydraulic relationship between EST and SITL; self-definition seems to impact what characteristics are important in a group.

An additional, unexpected finding from Barreto and Hogg's (2018) study was an interaction between diffuse status characteristics and leader prototypicality. Leaders who were both prototypical and high in diffuse status were the most favorably rated. Similar findings were reported by Oldmeadow (2007) when manipulating age as a status characteristic (older students vs younger students) and the group (undergraduate vs university). Results showed older students were more influential than younger students, but when "being young" matched the group (undergraduate students are younger), those younger members were more influential. These findings suggest that there is some overlap between diffuse characteristics and leader prototypicality, which may be the result of the definition of what constitutes a prototypical or status trait. Essentially, what makes an attribute important?

### **Group-Level Factors**

What both theories define as an "important" attribute depends on the group. The salience and burden of proof assumptions (Berger et al., 1977; Berger, et al., 1980; Correll & Ridgeway, 2006) of EST mean that any attribute is a possible status characteristic. Moreover, the prototype, as defined by SITL, varies (by design) from group to group (Hogg & Van Knippenberg, 2003). If both theories seek to explain influence processes using the attributes of group members, and

what attributes are important is conditional (varies from group to group) according to both theories, then perhaps each theory simply applies under different conditions. Below are two examples of potential group-level characteristics that dictate which groups are important: the presence of an outgroup and group type.

**Presence of an outgroup.** For SITL, the presence of an outgroup has immense importance; the nature of the ingroup is partly configured by using other groups to define what the ingroup is not. In the presence of an outgroup, the ingroup can place more value on, or have a more extreme version of, an attribute to differentiate itself from the outgroup (David & Turner, 1999; Gaffney, Rast, Hackett, & Hogg, 2014; Mackie, 1986; Turner, Wetherell, & Hogg, 1989). EST does not even consider ingroup status or the presence of an outgroup, though it has been shown to moderate the effect of status characteristics by altering the perceptions of the motivations of individuals (Oldmeadow et al., 2003). Therefore, in an intergroup context (i.e., an outgroup is salient), leader prototypicality should be the best predictor of group influence, with specific status characteristics having little effect and diffuse status characteristics getting wrapped up in what it means to be prototypical (Barreto & Hogg, 2018).

**Group type.** When interacting with others, people often use group level information to make inferences about individual group members. Lickel and colleagues found evidence for different group types (Lickel et al., 2000; as did Prentice, Miller & Lightdale, 1994) and later found evidence that people have different expectations of groups based on the type of group (Lickel, Rutchick, Hamilton, & Sherman, 2006). Other researchers have found that different groups serve different social needs (Johnson et al., 2006), and group type is used to organize information about individuals in the groups (Sherman, Castelli, & Hamilton 2002). People in

groups may differentiate among different types of groups when perceiving, encoding, and using information about group members (Milanov, Rubin, & Paolini, 2014).

Lickel and colleagues (2006) proposed four different group types: intimacy, task, social and loose associations. These group types varied along an assortment of dimensions: entitativity, size, life span, permeability, and purpose. Lickel and colleagues primarily focused on the entitativity of the groups, or the degree to which the groups seemed to be discrete, unique, and definable entities (Campbell, 1958; see Hamilton & Sherman, 1996). Not only do these groups vary on a number of dimensions, they also serve many different purposes. Intimacy groups have relatively similar group members, are of high importance to the members, are long lasting, and serve an identity defining function. Task groups are usually small, have a great deal of intragroup interaction, are more permeable, shorter lived, and formed with an explicit goal in mind. Neither EST or SITL draw on this literature of “group type”, or the possible role the entitativity of a group may have in the formation or change of an influence hierarchy, though there are clear connections.

While EST explicitly states that group members must have a specific task or goal to focus on, the theory does not have a formal description of what makes a group goal orientated. Instead, the theory simply states that whenever a group has a “collective task orientation” members will behave per the theory (Correll & Ridgeway, 2006, Ridgeway, 2001). Task groups, given their explicit goals, would have the collective task orientation necessary for EST. Meanwhile, SITL does not make an explicit statement about what type of groups the theory should apply to, only that the group should serve some identity defining function, not necessarily to accomplish a goal or task. Intimacy groups importance to the individual and identity defining functions could

parallel the processes of self-categorization and depersonalization as presented in SITL (Hogg, et al., 2012a).

This is not to say that intimacy groups cannot have goals or task groups cannot have value to the individual members, rather these aspects are not the primary purpose of those groups. Changing group members' perceptions of the group's goals should change the characteristics individuals look for in their group members. If individuals are in a task group (like a jury) where the group goal is defined by categories (for example success vs failure), then individual member influence should be predicted more by status characteristics than prototypicality. However, if that jury begins to serve an identity defining function for the group members, the group's definition of its goal shifts from its clear categories to a more abstract and gradual definitions of success. In this instance, a prototypical member should emerge and gain influence (Giessner & van Knippenberg, 2008; Giessner, Van Knippenberg, & Sleebos, 2009).

The preceding discussion leads to a relatively simple, but untested question: is it possible to predict who will occupy the top rung of the influence hierarchy within a group given simple group characteristics (i.e. presence of an outgroup and group goal type)? This question is the main goal of the studies proposed below.

### **Overview of Current research**

This dissertation assesses the relationship between status characteristics and group prototypicality. Drawing on both SITL and SCT, a general hypothesis was derived: differences in group characteristics can be used to determine which group member attributes will be used to determine the most influential individual. This integration of two theories of social influence is unique, and the studies were designed to determine if these two theories do indeed have a hydraulic relationship; i.e. there are conditions under which prototypicality is a better predictor



than status characteristics of social influence and vice versa. Two group-level characteristics—group context and group type—were assessed as moderators.

The present work borrowed methods from previous research (Barreto & Hogg, 2018). However, it built on that research by allowing participants to rank leaders based on endorsement (each leader having different attributes from SITL or SCT), which was the primary outcome. The secondary outcome was a leader ratings scale that included evaluations of leader trust, effectiveness, and support. Study 1 examined how the presence of a competitive outgroup (intergroup context) might affect the relationship between leader traits (status characteristics and group prototypicality) and leader evaluations. Study 2 assessed the same set of relationships, while manipulating group type (task vs non-task group orientation).

In each study, a cross-over interaction was expected for both outcomes. When presented with multiple leaders, the group characteristics (group context in Study 1 and group orientation in Study 2) were expected to dictate the pattern of leader endorsement or evaluation. Specifically, in Study 1, in an intergroup context, a group prototypical leader was expected to be endorsed more and evaluated more favorably than leaders who have either diffuse or specific status characteristics. In an intragroup context, the leader(s) with status characteristics were expected to receive more endorsement and favorable ratings than the group prototypical leader.

A similar cross-over interaction was hypothesized for Study 2. When in a group focused on a precise, objective, and clear goal, the leader with specific status (i.e., task relevant skills) was expected to be endorsed the most and rated highest. In a group that is oriented to more abstract goals, the group prototypical leader was expected to have the most endorsement and be rated most favorably.

## CHAPTER 2

### Study 1

Study 1 tested the proposition that the social context, i.e. presence (vs. absence) of a competitive outgroup, determines what characteristics are most valued in a leader. College students were primed to think about their department being considered for additional funding, and they were informed that they were either the only department being considered (intragroup context) or that other groups could get the funding (intergroup context).

It was expected that the perceived presence of an outgroup would lead participants to rate leaders differently than when no outgroup was present. Specifically, leaders described as prototypical of the department would be rated and ranked more favorably than those who had diffuse or specific characteristics in intergroup context situations. In contrast, leaders with specific characteristics were expected to be rated and ranked most favorably in intragroup situations. This was tested in a 2 x 3 design in which participants in either an intergroup or intragroup context (between-subjects) rated and ranked three leaders (prototypical, diffuse status, specific status – a within-subjects variable).

### Methods

#### Participant Selection

Participants were recruited from TurkPrime (Litman, Robinson & Abberbock, 2016), an extension of Amazon's Mechanical Turk (MTurk). Research suggests that data obtained on MTurk is comparable to (if not better than) data obtained through more traditional samples (e.g., Hauser & Schwarz, 2016; Paolacci & Chandler, 2014). Study 1 was a 2 (group context: intergroup vs. intragroup) by 3 (leader characteristics: prototypical, diffuse status, specific status) mixed-design. Group context a between-participants factor and leader characteristics a within-

participants factor. The independent variables were manipulated via vignette. An a priori power analysis was conducted using G-Power 3.1.9.4 (Faul, Erdfelder, Lang, & Buchner, 2007; Faul, Erdfelder, Buchner, & Lang, 2009), which determined that a minimum sample of 206 participants was needed to detect a small to medium between-within interaction effect ( $f = .25$ ,  $\alpha = .05$ ,  $Power = .90$ ) for this mixed-design. More than the 206 required were gathered to account for dropout (see Peer, Brandimarte, Samat & Acquisti, 2017).

### **Inclusion and Exclusion Criteria**

To be included in the study, participants had to be at least 18 years old, currently residing in the United States, currently enrolled in college/university, and fluent in English. Participants were excluded if their IP address had a duplicate, they did not consent to the study, or they indicated that they were not currently enrolled in college/university. Additional exclusion criteria included the duration that participants took to complete the survey (either too long or too short), missing values on the primary or secondary dependent variables (leader rankings and leader ratings respectively), and assessment of multivariate outliers.

### **Study Design**

**Procedure.** Participants were first asked to consent to the study (Appendix A), which included a brief description of the study, along with descriptions of the potential risks and benefits. Participants then confirmed that they were attending college and indicated what department they work in (e.g., what their major was).

Next, participants answered questions about their level of identification with their department. They were given a brief description of a hypothetical situation (manipulation adapted from the imagined contact hypothesis - Crisp & Turner, 2012; Miles & Crisp, 2014), which ended with the manipulation of group context (see Appendix B):

“You have been selected to be part of a group representing your [*insert major from previous question*] department as part of a fundraising opportunity. This group will be responsible for arguing the department’s case to a board of a charitable fund. The board will vote on whether to give your department additional funding. [manipulation]”

After reading this vignette participants answered identification questions, similar to those asked about their department, measuring how strongly they identify with the task group (see Appendix C). Then participants were told the following about the group (adapted from Barreto & Hogg, 2018):

“While the whole group will have a say in the presentation, you will all have to vote for a leader who will make final decisions on the content of the presentation and give the presentation to the funding committee. Three people have been selected as possible leaders and have provided some basic information about themselves.”

Participants were then presented with descriptions of three other group members who had been identified as leader candidates. The leader description vignettes were based on previous research manipulating leader characteristics (Barreto & Hogg, 2018). One described a leader with specific status, i.e. a leader that has experience with similar presentations and groups (Berger et al., 1977; Driskell & Mullen, 1990). Another described a leader with diffuse status, i.e. an older (senior) student who has taken most/all the courses the department offers (Berger et al., 1980; Berger et al., 2014; Driskell & Mullen, 1990). The final description was of a group prototypical leader, i.e. a department major, who shares the values, interest, and opinions of the department (see Appendix D for detailed vignettes).

Next participants ranked the three leaders in descending order from who they would endorse to lead the most to the least (Appendix E). Following this, they evaluated each leader on

a 10-item leader ratings questionnaire (Appendix F). Then participants assumptions (e.g., how old, experienced, etc.; see Appendix G) about each leader were assessed. Finally, participants answered general demographic questions (Appendix H).

### **Scale and Question Details.**

***Department and Group identification.*** Both department and group identification consisted of two questions. “I identify with the [*insert department or group*]”, and “The [*insert department or group*] is important to me.” 1 *strongly disagree*, 5 *neutral*, 9 *strongly agree* (Barreto & Hogg, 2018; adapted from Hornsey & Hogg, 2000). The two items for each measure of identification were averaged for their identification scores.

***Leader ranking.*** Participants were asked to rank the three leader options in descending order of preference (1st, 2nd, 3rd) based on who they would most like to represent their group.

***Leader ratings.*** Participants rated each leader on a 10-item leader ratings questionnaire adapted from previous research (Barreto & Hogg, 2018; Giessner & Van Knippenberg, 2008; Rast, Hogg, & Giessner, 2013; Rast, Hogg, & Tomory, 2015; Rast et al., 2012). The scale included items that assess leader effectiveness, support, and trust, such as; “This leader will be very effective,” “I will be a strong supporter of this student leader.” “I think this leader is trustworthy,” on a Likert scale of 1 *strongly disagree*, 5 *neutral*, 9 *strongly agree* (Appendix F).

***Leader assumptions.*** Participants answered questions about assumptions they made about each leader such as gender, year in school, perceived experience, and perceived group representativeness.

***Demographics.*** Participants answered demographic questions (age, race/ethnicity, sex, etc.) as well as if they have previous experience in the kinds of groups/task described in the hypothetical scenario.

## Data Cleaning

**Data Exclusions.** Participants were excluded if they were missing data on the main dependent variables (leader rankings or ratings). To maintain the quality of the data, participants were excluded if they completed the survey too fast or too slow. Participants survey duration was considered “too fast” if they finished in less than 2 minutes and “too slow” if they finished after 25 minutes. Finally, multivariate outliers were assessed using Mahalanobis distance with a probability estimate of  $p < .001$  for the  $\chi^2$  value (Tabachnick & Fidell, 2012). Using 8 degrees of freedom (8 scales: department identification, group identification, the three leader ratings, and the leader rankings) the cutoff  $\chi^2 = 26.12$ .

**Dependent Variables** Leader rankings were recoded such that those ranked 3<sup>rd</sup> (lowest desired to lead) were scored 0, 2<sup>nd</sup> place scored a 1, and 1<sup>st</sup> scored a 2.

Leader ratings were individually assessed for each leader. Though the leader ratings scale measures support for, trust in, and anticipated effectiveness of a leader, previous research (Barreto & Hogg, 2018) suggests that these subfactors all load onto one global factor. Factor analysis with oblimin rotation was conducted on the 10 items assessing leader ratings of each leader vignette (specific, diffuse, and prototypical leaders) to determine the number of factors, and the items were averaged together into their respective factors.

## Results

### Demographic Analysis and Scale Assessment

A total of 272 US college students were targeted. Participants were removed if they had duplicate IP addresses ( $n = 14$ ), indicated they were not currently in school ( $n = 7$ ) or did not answer if they were not currently in school ( $n = 7$ ), were missing data on any of the key variables

( $n = 15$ ), or took too much or too little time ( $n = 11$ ). Mahalanobis distance was assessed with this sample, and only 2 participants exceeded the cutoff value ( $\chi^2 = 26.12$ ) and were excluded.

This resulted in a final sample of 216 total participants. There were 143 (66.20%) males, who were predominately White (55.06%), in their third year of school ( $M = 3.32$ ,  $SD = 1.14$ ), and the average age was about 27 years ( $M_{Age} = 27.45$ ,  $SD_{Age} = 6.94$ ). A sensitivity analysis suggests that with the given sample size ( $N = 216$ ) and parameters ( $Power = .80$ ,  $p = .05$ , 2 groups, 3 measurements, between measure correlation = .19, and no sphericity correction), a small effect size ( $f = .110$ ) is obtainable.

Factor analyses resulted in a single factor solution for specific, diffuse, and prototypical leader ratings, with 71.09% (Eigenvalue = 7.11), 78.58% (Eigenvalue = 7.86), and 70.60% (Eigenvalue = 7.06) variance in the items accounted for (respectively) by one factor. All factor loadings were above .77. These results suggest that, as expected, leader ratings for all three leaders can be assessed as a single factor. See Table 1 for means, standard deviations, alpha reliabilities, and correlations of measured variables.

Finally, the demographics and identification variables were assessed as possible covariates. These included participant age, sex, race, year in school, department identification, and work group identification. The relationships between the covariates, the primes, and the leader evaluations (ratings and rankings) were explored. Bivariate tests (t-tests and chi-square tests) were used to determine if the prime was related to any of the covariates. There were no observed significant relationships (all  $ps > .05$ ) between the group context prime and any of the covariates. Repeated measure ANOVA's (RANOVA) were used to assess the relationships between the within-subjects variables and the covariates. While no significant relationship between the covariates and the leader rankings was found, between-subjects effects of race ( $F_{(1,$

209) = 4.61,  $p = .033$ ) and group identification ( $F_{(1, 209)} = 14.14, p < .001$ ) were found for leader ratings. These two variables were included in the analysis of leader ratings as controls.

### Focal Analyses

**Leader Rankings.** A 2 (inter- vs. intragroup) by 3 (prototypical, diffuse, specific leader characteristics) repeated measures ANOVA was run on leader rankings, without any covariates. There was no violation of the sphericity assumption (*Mauchley's*  $W = .987, \chi^2_{(2)} = 2.724, p = .256$ ), so no correction was used. There was a significant main effect of leader characteristic on leader endorsement ( $F_{(2, 428)} = 21.74, p < .001, \eta_p^2 = .092$ ), with prototypical leaders ( $M_{rank} = 1.34, SE = .05$ ) consistently being ranked higher than diffuse ( $M_{rank} = .75, SE = .05; p < .001$ ), and specific ( $M_{rank} = .91, SE = .06; p < .001$ ) leaders. There was no statistically significant difference between specific and diffuse leaders ( $p = .081$ ). No significant context by leader interaction was observed ( $F_{(2, 428)} = .61, p = .545, \eta_p^2 = .003$ ; see Figure 1), which does not support the main hypothesis (H1a).

Figure 1:

*Two-way Interaction of Leader Characteristics and Group Context on Leader Endorsement (Study 1)*

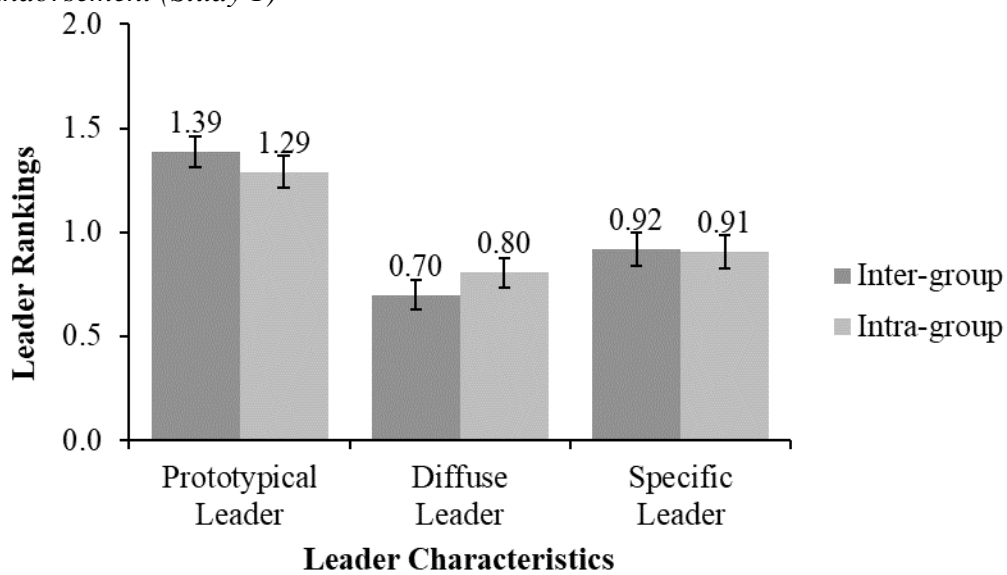




Table 1:

*Descriptives, Alphas, and Correlations of Measured Variables (Study 1)*

Variables	M (SD)	$\alpha$	1	2	3	4	5	6	7
1. Specific Rank score	.91 (1.26)	---							
2. Diffuse Rank Score	.75 (.74)	---	-.54**						
3. Prototypical Rank Score	1.34 (.78)	---	-.51**	-.42**					
4. Department Identification	7.70 (1.30)	.82	.005	-.04	.03				
5. Group Identification	7.55 (1.49)	.87	.09	-.08	-.01	.79**			
6. Specific Leader Ratings	6.70 (1.53)	.96	.21**	-.08	-.15*	.25**	.34**		
7. Diffuse Leader Ratings	6.47 (1.83)	.97	-.05	.26**	-.25**	.23**	.24**	.34**	
8. Prototypical Leader Ratings	7.34 (1.44)	.95	-.10	-.10	.21**	.42**	.48**	.20**	.30**

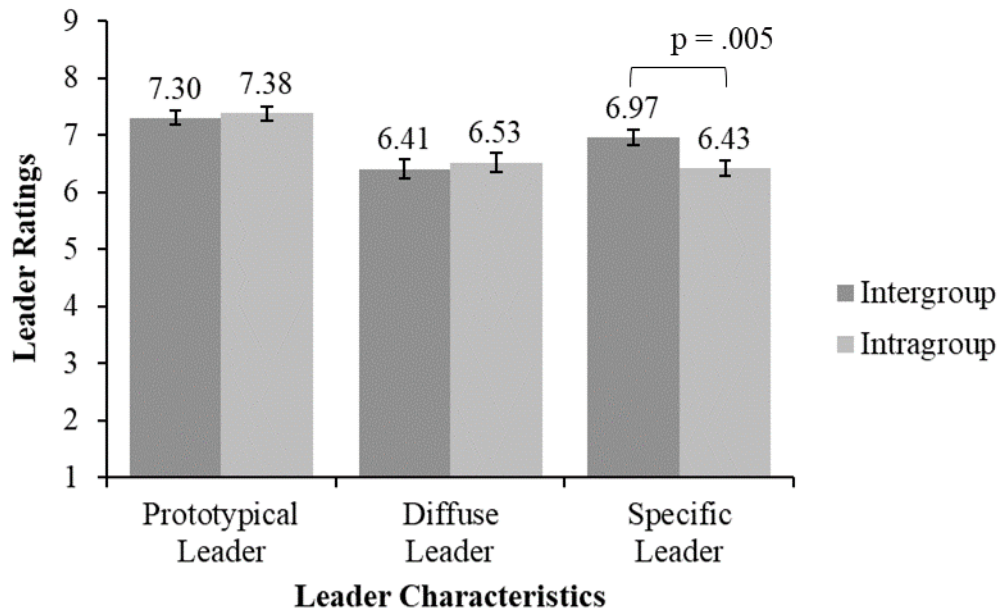
$N = 216$ ; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

**Leader Ratings.** As with leader rankings, a 2 by 3 repeated measures ANOVA was run on leader ratings, controlling for group identification and participant race. There was no violation of the sphericity assumption (*Mauchley's*  $W = .996$ ,  $\chi^2_{(2)} = .837$ ,  $p = .658$ ), so no correction was used. There was no significant effect of either condition ( $F_{(1, 212)} = .70$ ,  $p = .405$ ,  $\eta_p^2 = .003$ ) or leader characteristic ( $F_{(2, 424)} = .23$ ,  $p = .799$ ,  $\eta_p^2 = .001$ ) on leader ratings. However, the pattern of differences between the leader characteristics were similar to those in leader rankings, with prototypical leaders ( $M_{rating} = 7.34$ ,  $SE = .09$ ) consistently being rated more favorably than diffuse ( $M_{rank} = 6.47$ ,  $SE = .12$ ;  $p < .001$ ), and specific ( $M_{rating} = 6.70$ ,  $SE = .10$ ;  $p < .001$ ) leaders, and no statistically significant difference between specific and diffuse ( $p = .082$ ). However, these effects were conditioned on a significant context by leader interaction ( $F_{(2, 424)} = 3.95$ ,  $p = .020$ ,  $\eta_p^2 = .018$ ).

Simple effects tests found that in the intragroup condition, the prototypical leader ( $M_{rating} = 7.38$ ,  $SE = .12$ ) was rated more favorably than both diffuse ( $M_{rating} = 6.53$ ,  $SE = .17$ ) and specific ( $M_{rating} = 6.43$ ,  $SE = .14$ ) leaders ( $ps < .001$ ), with the difference between the diffuse and specific leaders being non-significant ( $p = .598$ ). In the intergroup condition the difference between the prototypical ( $M_{rating} = 7.30$ ,  $SE = .12$ ) and specific ( $M_{rating} = 6.97$ ,  $SE = .14$ ) leaders was non-significant ( $p = .059$ ) and the difference between the diffuse ( $M_{rating} = 6.41$ ,  $SE = .17$ ) and specific leaders was significant ( $p = .003$ ). The significant interaction seems to be driven by changes in the specific leader's ratings. Between the inter- and intra- group conditions, there were not significant differences within the diffuse leader or the prototypical leader. The specific leaders' ratings in intergroup condition were significantly higher than in the intragroup condition ( $p = .005$ ; see Figure 2). This partially supports the secondary hypothesis (H1b).

Figure 2:

*Two-way Interaction of Leader Characteristics and Group Context on Leader Ratings (Study 1)*



### Discussion

Study 1 assessed the effects of the presence of an outgroup on how leaders with different traits were ranked and evaluated. A two-way interaction was expected for both leader endorsement and leader ratings. Specifically, representative (prototypical) leaders were expected to be endorsed the most (H1a) and most favorably rated (H1b) in an intergroup context; whereas, in intragroup contexts, experienced (specific) leaders were expected to be endorsed more and rated most favorably.

Overall, both outcomes followed a similar pattern: the prototypical leader was consistently evaluated most favorably, followed by the specific leader, and last the diffuse leader. The results did not support the first hypothesis (H1a), as only a main effect of leader characteristics on leader endorsement was found. However, a significant group context by leader characteristics interaction on leader ratings was found, which partially supports our second

hypothesis (H1b). While an interaction was observed, the interaction did not present as was expected. The only significant difference within leaders between the two group contexts occurred in the leader with specific characteristics. In an intergroup context, leaders with task relevant expertise were rated as high as group prototypical leaders, while in intragroup contexts expert leaders were rated significantly lower.

## CHAPTER 3

### Study 2

Study 1 focused on a group feature derived from SITL; the presence of an outgroup. It tested the idea that an outgroup is likely to make salient individual's group identity, which will make group prototypical leaders more attractive. Another group feature is its functional orientation; is there a collective task to complete or does the group serve a more social purpose? According to EST, in task-oriented groups, group members should be interested in leaders who have task relevant characteristics, to increase the group's likelihood of success.

Study 2 sought to assess the effect of changing the type of group on evaluation of leader characteristics. While it is difficult to manipulate group type (to the author's knowledge there is no good way to manipulate group type) manipulation of the group's goals may serve the same purpose. Based on previous research on group goal manipulation (Brendl & Higgins, 1996; Giessner & van Knippenberg, 2008), participants were manipulated into believing the group's goal was either an absolute (minimal) goal or a gradient (maximal) goal. If the goal is absolute, (i.e. the group wins the department more funding, or it doesn't) members are expected to focus on the task the group needed to complete, i.e. become more task-oriented. If the goal is a gradient (i.e. the better the groups presentation the more funding they win) the group members will not be as focused on the task and more interested in the identity defining function of the group, i.e. the group isn't only task-oriented. Based on this reasoning, to test the effect of group type, Study 2 manipulated the goal definition of each group, giving one group a categorical goal definition (minimal goal) to serve as a proxy for task group and one group a gradient goal definition (maximal goal) to serve as the social group.

Like Study 1, college students were primed to think about their department being considered for additional funding, and that they were involved in the group arguing for the department securing the funding. The primary difference between Study 1 and Study 2 is that, where Study 1 described the department as having competition for the funds or not, Study 2 manipulated the goal definition.

As in Study 1, a two-way interaction was expected between within-subject endorsement (or evaluation) of leaders and the between-subject condition (task vs. non-task group orientation). It was predicted that leaders with prototypical characteristics would score higher than those who had diffuse or specific characteristics in non-task-oriented groups; in task-oriented groups leaders with specific characteristics were expected to garner more endorsement and higher leader ratings than the leaders with prototypical or diffuse characteristics.

### **Methods**

As a partial replication of Study 1, the design and methodology (including participant selection, procedure, data cleaning, and data analysis) were nearly identical to Study 1.

#### **Participant Selection**

Participants were recruited from TurkPrime. Study 2 was a 2 (group orientation) by 3 (leader characteristics) mixed design. Group orientation was a two-level between-participants factor and leader characteristics a three-level within-participants factor, both manipulated via vignette. Power analysis conducted using G-Power 3.1.9.4 found a minimum sample of 206 participants was needed to detect a between-within interaction effect ( $f = .25$ ,  $\alpha = .05$ ,  $Power = .90$ ) for this mixed-design. As in Study 1, more than the 206 required were gathered to account for dropout.

## **Inclusion and Exclusion Criteria**

The inclusion and exclusion criteria were identical to Study 1. Inclusion criteria included being 18 years old, currently residing in the United States, currently being in college/university, and being fluent in English. Exclusion criteria included duplicate IP addresses, consent failure, not current college/university students, duration, missing any values, and multivariate outliers.

## **Study Design**

**Procedure.** As in Study 1, participants first consented to the study (Appendix A), confirmed that they were attending college, and indicated what department they work in. Participants answered department identification questions and were given a description of a hypothetical situation, which ended with the manipulation of group goal orientation. The manipulations were adapted from previous work on goal definition (Brendl & Higgins, 1996; Giessner & van Knippenberg, 2008). In the task-oriented group condition, participants were told that there was a clear rubric, which would be used to determine their success. In the non-task-oriented group, participants were told that they would get funding based on how much the reviewer enjoyed the presentation (see Appendix B).

Next, participants answered identification questions about the group. Then participants were told about leader options being selected from the group, and they were presented with descriptions of the three leader candidates (see Appendix D for detailed vignettes). Participants then evaluated the leaders by endorsement, rating, and provided their assumptions about each leader (see Appendices E, F, and G). Finally, participants provided demographic information (Appendix H).

**Scale and Question Details.** All scale items were replicated from Study 1.

## Data Cleaning

**Data Exclusions.** Using the same data cleaning methods as Study 1, participants were excluded if they were missing data on the key variables, if they completed the survey too fast or too slow, or if they were considered multivariate outliers. Duration was determined “too fast” if participants finished in less than 2 minutes, and “too slow” if they finished after 25 minutes. Multivariate outliers were assessed using Mahalanobis distance with a cutoff of  $\chi^2 = 26.12$ .

**Dependent Variables** Leader rankings were recoded such that those ranked 3<sup>rd</sup> (lowest desired to lead) were scored 0, 2<sup>nd</sup> place scored a 1, and 1<sup>st</sup> scored a 2.

Leader ratings were assessed for each leader individually. Again (see Study 1 above), despite three possible subscales, one global factor was expected, and the items were averaged together into their respective factors.

## Results

### Demographic Analysis and Scale Assessment

Of 273 US college students, those who had duplicate IP addresses ( $n = 9$ ), indicated they were not currently in school ( $n = 3$ ) or did not answer if they were not currently in school ( $n = 10$ ), were missing on any of the key variables ( $n = 19$ ), or took too much or too little time ( $n = 12$ ) were removed from the sample. Mahalanobis distance was assessed with this sample, and only 3 participants exceeded the cutoff value ( $\chi^2 = 26.12$ ) and were excluded.

This resulted in a final sample of 217 total participants. Of the 217, 133 (61.30%) were males, 111 were White (51.20%), most were in their third year of school ( $M = 3.41$ ,  $SD = 1.09$ ), and the average age was about 27 years ( $M_{\text{Age}} = 27.17$ ,  $SD_{\text{Age}} = 6.35$ ). A sensitivity analysis suggests that with the given sample size ( $N = 217$ ) and parameters (Power = .80,  $p = .05$ , 2



groups, 3 measurements, between measure correlation = .19, and no sphericity correction), a small effect size ( $f = .110$ ) is obtainable.

Similar to Study 1, factor analyses resulted in a single factor solution for for all three leaders' evaluations; specific variance accounted for 71.87% (Eigenvalue = 7.19), diffuse variance explained 72.37% (Eigenvalue = 7.24), and prototypical variance 65.20% (Eigenvalue = 6.52). All factor loadings were above .78. These results replicated Study 1; i.e. leader ratings for all three leaders can be assessed as a single factor. See Table 2 for means, standard deviations, alpha reliabilities, and correlations of measured variables.

Age, sex, race, year in school, department identification, and work group identification were assessed as possible covariates, using bivariate tests for the prime and RANOVAs for the within-subject variable. None of the covariates were observed to be related to the group orientation prime (all  $ps > .05$ ). Major identification ( $F_{(1, 209)} = 9.11, p = .003$ ), group identification ( $F_{(1, 209)} = 4.30, p = .039$ ), and age ( $F_{(1, 209)} = 4.65, p = .032$ ) all had significant between-subject main effects. No significant relationships were found between the covariates and leader ranking. All significant covariates (major identification, group identification, and age) were included as covariates in the analysis of leader ratings.

Table 2:

*Descriptives, Alphas, and Correlations of Measured Variables (Study 2)*

Variables	M (SD)	$\alpha$	1	2	3	4	5	6	7
1. Specific Rank score	.98 (.80)	---							
2. Diffuse Rank Score	.86 (.82)	---	-.51**						
3. Prototypical Rank Score	1.17 (.81)	---	-.47**	-.52**					
4. Department Identification	7.61 (1.32)	.83	-0.07	0.12	-0.05				
5. Group Identification	7.53 (1.37)	.80	-0.04	0.03	0.01	.73**			
6. Specific Leader Ratings	6.61 (1.67)	.96	0.07	0.07	-0.13	.24**	.27**		
7. Diffuse Leader Ratings	6.49 (1.70)	.96	-.14*	.35**	-.22**	.29**	.23**	.29**	
8. Prototypical Leader Ratings	7.22 (1.35)	.94	-0.09	-.21**	.30**	.36**	.34**	0.11	.16*

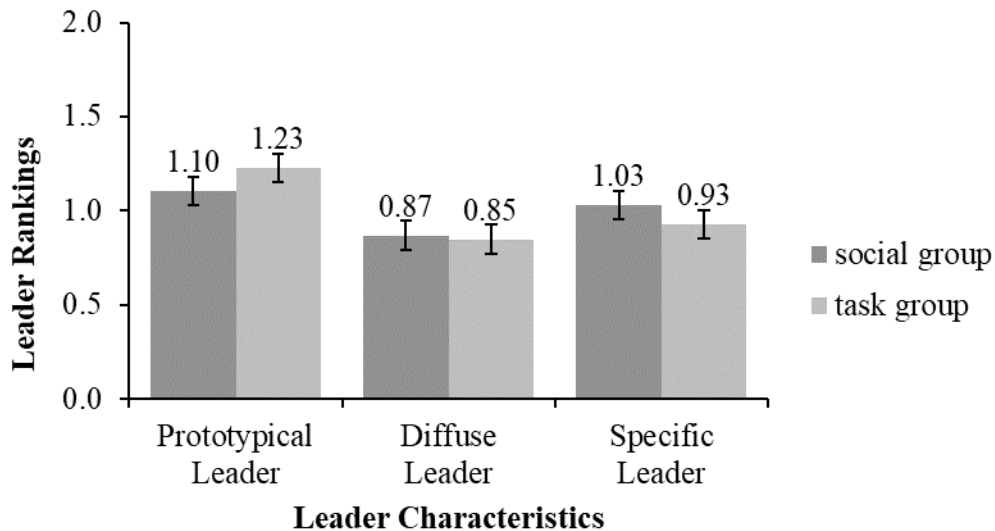
$N = 216$ ; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## Focal Analyses

**Leader Rankings.** A 2 (non-task vs. task orientation) by 3 (prototypical, diffuse, specific leader characteristics) repeated measures ANOVA was run on leader rankings, without any covariates. There was no violation of the sphericity assumption (*Mauchley's W* = .998,  $\chi^2_{(2)} = .399$ ,  $p = .819$ ), so no correction was used. There was a significant main effect of leader characteristic ( $F_{(2, 430)} = 5.29$ ,  $p = .005$ ,  $\eta_p^2 = .024$ ) on leader rankings, with prototypical leaders ( $M_{rank} = 1.16$ ,  $SE = .06$ ) consistently being ranked higher than diffuse ( $M_{rank} = .86$ ,  $SE = .06$ ;  $p = .002$ ) and specific ( $M_{rank} = .98$ ,  $SE = .06$ ;  $p = .047$ ) leaders. There was no statistically significant difference between specific and diffuse leaders ( $p = .208$ ). There was no main effect of group orientation on leader rankings. No significant context by leader interaction was observed ( $F_{(2, 430)} = .70$ ,  $p = .498$ ,  $\eta_p^2 = .003$ ). These results replicate those found in Study 1, failing to support the main hypothesis (H2a; see Figure 3).

Figure 3:

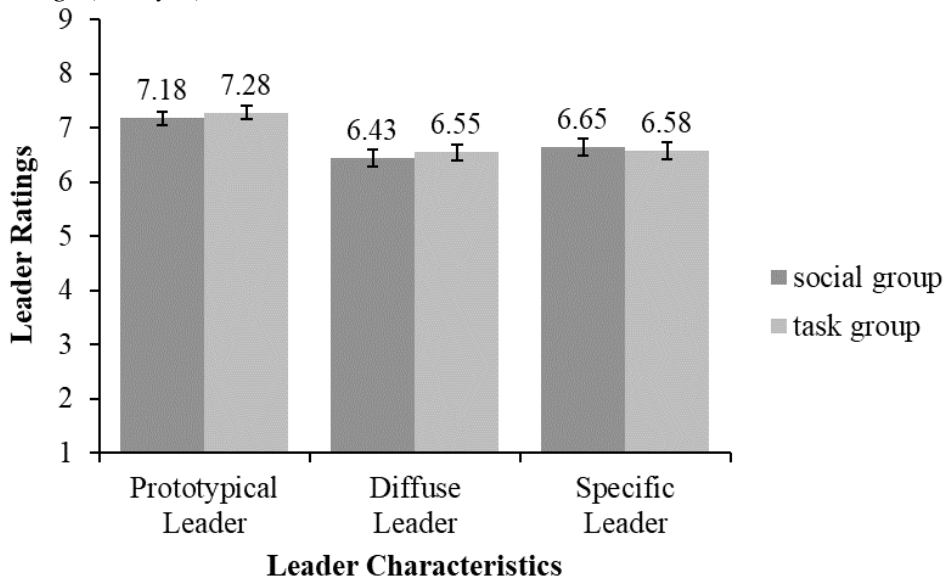
*Two-way Interaction of Leader Characteristics and Group Context on Leader Endorsement (Study 2)*



**Leader Ratings.** As with leader rankings, a 2 by 3 repeated measures ANOVA was run on leader ratings, controlling for group identification, major identification, and the participant's age. There was no violation of the sphericity assumption (*Mauchley's*  $W = .999, \chi^2_{(2)} = .140, p = .932$ ) so no correction was used. There were no significant main effect of condition ( $F_{(1, 211)} = .124, p = .725, \eta_p^2 = .001$ ) or leader characteristic ( $F_{(2, 422)} = 1.37, p = .255, \eta_p^2 = .006$ ) on leader ratings. Despite the lack of a significant effect of leader characteristics, contrasts of leader characteristics mirror those found on leader rankings, and the pattern found in Study 1. Prototypical leaders ( $M_{rating} = 7.23, SE = .09$ ) were consistently rated higher than diffuse ( $M_{rating} = 6.49, SE = .11; p < .001$ ), and specific ( $M_{rating} = 6.61, SE = .11; p < .001$ ) leaders, and the difference between specific and diffuse was not significant ( $p = .361$ ). However, as opposed to Study 1, there was no observed statistically significant orientation by leader interaction ( $F_{(2, 422)} = .283, p = .754, \eta_p^2 = .001$ ) on leader ratings, which fails to support the secondary hypothesis (H2b; see Figure 4).

Figure 4:

Two-way Interaction of Leader Characteristics and Group Orientation on Leader Ratings (Study 2)



## Discussion

Study 2 assessed how differences in group goal orientation would affect how leaders with different traits were ranked and evaluated. Study 2 was an attempt to replicate the findings of Study 1, using a different group characteristic as the manipulation of interest. As in Study 1, a two-way interaction was expected for both leader endorsement and leader ratings. It was expected that group prototypical leaders would be endorsed the most in a group that was less task-oriented, while leaders with expertise were expected to be endorsed the most in task-oriented groups (H2a). The same pattern was expected for leader ratings (H2b).

Overall, both outcomes replicated the patterns found in Study 1; the prototypical leader was consistently endorsed and evaluated at the top, followed by the specific leader, and last the diffuse leader. While the patterns were similar to those found in Study 1, the overall tests of the interactions failed to support the first (H2a) or the second hypothesis (H2b). This study did not find evidence that group task-orientation impacts how leaders were ranked or evaluated. This could have several implications for a variety of group contexts.

## CHAPTER 4

### General Discussion

Determining which individual in a group will have the most influence, and act as the group's leader, can be the result of any of a multitude of factors (Hogg, 2010). According to both the social identity theory of leadership (Hogg, 2001; Hogg & Van Knippenberg, 2003; Hogg, et. al., 2012a) and expectation states theory (Berger, Rosenholtz, & Zelditch, 1980; Berger, Wagner, & Zelditch, 1985; Ridgeway, 2001), the answer lies in group members perceiving leaders to have the necessary characteristics. Social identity theory argues that individuals with attributes that define the group will be the most influential, while expectation states theory suggests that influence is given to those who can be expected to succeed. The general goal of both studies presented here was to determine if features of the groups themselves might dictate which kind of characteristics were most valued. The group features assessed were based on key components of social identity theory of leadership and expectation states theory; the presence of an outgroup and the group's task-orientation, respectively.

Study 1 examined how preferences for and perceptions of leaders with different traits would differ if they were in a group that had a clear competitive outgroup vs a group without an outgroup. College students were told they had the opportunity to work for a group seeking funding for their department. They were primed to believe they were in competition with other departments or they were the sole department being considered. They then ranked and rated three different possible leaders of the group.

Overall, group prototypical leaders were endorsed more and evaluated more positively than leaders with general social status or expertise in funding acquisition. Additionally, there was a significant two-way interaction between group context and leader trait on leader ratings;

however, the results did not follow a hydraulic relationship as expected. Without an outgroup, the leaders with status characteristics (social status and expertise) were not significantly different, and the prototypical leader did better than both. With a competitive outgroup present, the leader with expertise was rated as highly as the group prototypical leader, and both were rated significantly higher than the leader with general status. This runs contrary to the hypothesis, where the leader with expert status should have performed better in an intragroup context, or at the very least, the group prototypical leader was expected to be rated worse.

This unexpected effect of group context on leader evaluations could be due to the nature of the outgroup. Giving the participants a competitive outgroup specifically may have caused them to think the situation is “zero-sum” (Różycka-Tran et al., 2019). Participants could have only focused on winning rather than what defines their group (as was intended). Assuming that is the case, the results of Study 1 are clearer. An expert leader would be more valuable in the intergroup context than an intragroup context to avoid a “loss” to said outgroup. This methodological limitation, while unexpected, does suggest the importance of the kind of relationship the group has with outgroups, and the presence of outgroups with non-zero-sum relationships should be assessed in future studies.

While Study 1 showed evidence for some effect of group features on leader evaluations, it only tested one feature. The presence of a competitive outgroup is an external feature of a group and is based on a core concept of social identity theory of leadership, specifically the effect of outgroups in defining the ingroup (i.e. the meta-contrast, see Abrams & Hogg, 1990). To determine if leaders who are group prototypical are consistently the highest ranked and most positively rated, and to test if other features have an impact on leader evaluations, Study 2 was conducted using a group feature based on expectation states theory.

Study 2, replicating the design of Study 1, tested if a task-oriented group would evaluate leaders differently from a social (non-task-oriented) group. “Task-orientation” serves as an internal group feature (as opposed to an external feature, like intergroup context) and is based on a core requirement of expectation states theory. Specifically, expectation states theory clearly states that it only functions in groups with a collective task-orientation (Correll & Ridgeway, 2006). Participants were, again, students trying to secure funding for their department. Results showed, as in Study 1, that group prototypical leaders seemed to be preferred over leaders with general status or expertise. However, there was no significant two-way interaction between leader characteristics and group task-orientation on either leader endorsement or leader ratings.

Failure to support the hypotheses may be due to, as mentioned above, the difficulty in manipulating group types. Study 2 attempted to manipulate group type by manipulation of group goal orientation, but other methods may be needed to more accurately assess the effect of group type on leader selection and evaluation; known groups design. Finding groups categorized as task groups (e.g., juries, work groups, etc.) or social groups (e.g. friend groups, clubs, etc.) and presenting them with different leader options, may find the leader characteristic preferences that were expected. Additionally, while these results do not explicitly support the hypothesis, the findings could simply signify that some group features are relevant when determining the importance of leader characteristics (such as the presence of an outgroup) while some are not (such as the degree of task-orientation).

While the consistency of the results is promising, there is one limitation that needs to be discussed; the overall realism of the methods used. Barreto and Hogg (2017) found that the relationship between leader prototypicality and leader ratings was significantly stronger in correlational studies ( $r = .60$ ) than experiments ( $r = .35$ ). This suggests that manipulated or



imagined leaders or groups may have attenuated effects when compared to real world groups. Both Study 1 and Study 2 use hypothetical groups and leaders, and while the hypothetical groups were based in real groups (the major of the student), the leaders were explicitly hypothetical and unidimensional. In a real group, possible leaders vary in how prototypical of the group they are and have a variety of task relevant traits.

These studies are a first step in assessing the effects of different group features on influence processes in groups. Previous research has primarily focused on the individual; the salience of group members different identities, or the additive effects of multiple characteristics (Barreto & Hogg, 2018; Oldmeadow, 2007; Reid, Palomares, Anderson, & Bondad-Brown, 2009). The results shown here provide support for the general hypothesis that group features, and different types of groups, may evaluate leader characteristics differently. However, the hydraulic relationship specifically hypothesized was not supported in these two studies. Instead, this research suggests that group prototypicality is a consistent and strong predictor of leader evaluation, while task expertise (specific status characteristics) seems to be impacted by group features. Additionally, these findings provide further support to the importance of prototypical leaders by showing that those leaders are consistently endorsed the most, more than both leaders with general social status and expertise.

This preference for representative leaders is important to note for practical leadership selection applications. The results found here seem to suggest that group members will positively evaluate a group representative leader, and this preference may hinder diversity efforts, particularly when hiring, selecting, or appointing individuals to leadership roles. Given that the relationship between diversity and various group performance metrics is mixed and can be a positive or negative one (van Knippenberg & Schippers, 2007), it is unknown if this apparent

preference for prototypical leaders is “good”. Rather, this research simply suggests that such a preference exists, and organizations should be cognizant of this implicit preference when making their leadership decisions. Further research into the moderating role of diversity on the relationship between group features and leader traits on group outcomes is necessary.

Future research should also examine group performance metrics (e.g. performance, creativity, turnover intentions, job satisfaction, etc.) as outcomes, not simply leader evaluations, as well as the preference for different leader characteristics in a variety of different kinds of groups. There is a great deal of research in favor of prototypical leaders with group performance metrics; see van Knippenberg, 2011), but the present research does not directly assess group performance as an outcome. The present study also only manipulated two possible group features. Future studies should continue to test different group features: size, different rewards (rather than just funding), different organizations, etc. Further studies should also assess real world groups and categorize them as objectively task or socially oriented groups. Comparisons of these groups and the kinds of leaders in charge of them, would confirm that leaders with different traits end up in charge of different groups.

Despite some of the results being unexpected, they still provide valuable insight into how social influence and leadership processes work for different groups. In both studies leaders who are representative of the group’s values are endorsed and evaluated higher than leaders with general social status and expertise. Additionally, task-orientation does not seem to impact leader preference, while the presences of a another, competitive group does. This information would be particularly valuable to organizations when leaders need to be selected to run a work team or group. By picking the individual who will be given the most influence naturally, organizations can avoid disruptions in group performance (Bendersky & Hays, 2012).

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## APPENDIX A: CONSENT FORM AND DEPARTMENT SELECTION



# Claremont Graduate University

### AGREEMENT TO PARTICIPATE IN *WHO SHOULD LEAD? EFFECTIVE INFLUENCE AS A PRODUCT OF GROUP CONTEXT AND GROUP PURPOSE* (IRB # 3563)

You are invited to take a survey for a research project. Participation will not benefit you directly, though you will be compensated, and you will be helping us explore how influence and leadership varies depending on the kinds of group. If you volunteer, you will be asked to answer some questions about yourself, read about a hypothetical situation, and complete some questions about that situation. This will take about 5 – 10 minutes of your time. Volunteering for this study involves no more risk than what a typical person experiences on a regular day. Your involvement is entirely up to you. You may withdraw at any time for any reason. Please continue reading for more information about the study.

**STUDY LEADERSHIP:** This research project is led by Nicolas Barreto, a doctoral student of psychology at Claremont Graduate University and supervised by Michael Hogg, a professor of psychology at Claremont Graduate University.

**PURPOSE:** The purpose of this study is to examine how people evaluate and vote for potential leaders.

**ELIGIBILITY:** To be in this study, you must be 18 years of age or older, currently attending college, a citizen of the United States, and fluent in English.

**PARTICIPATION:** During the study, you will be asked to complete a questionnaire that will take about 5 – 10 minutes. You will be asking about where you go to school, then asked to read about a imaginary group that your school has asked you to work with. You will read about some potential leaders of that group, then asked to vote for them, and asked some questions about how well you think each would do at the task. Then you will be asked a few more questions, like your age, and year in school.

**RISKS OF PARTICIPATION:** The risks that you run by taking part in this study are minimal. At most the risks include possible discomfort answering questions. All responses are confidential, and in no responses from individual participants be identified.

**BENEFITS OF PARTICIPATION:** We **do not** expect the study to benefit you personally. This study will benefit the researcher(s) by helping to complete my graduate education and enabling us to publish the results in a scientific journal. This study is also intended to benefit psychologists and organizations through the advancement of theory and understanding of leadership processes.



**COMPENSATION:** You will be directly compensated \$0.60 for participating in this study. You will need to fulfill all the eligibility criteria listed above and provide a code which will be given at completion of the survey.

**VOLUNTARY PARTICIPATION:** Your participation in this study is completely voluntary. You may stop or withdraw from the study at any time or refuse to answer any particular question for any reason without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at CGU.

**CONFIDENTIALITY:** Your individual privacy will be protected in all papers, books, talks, posts, or stories resulting from this study. We may share the data we collect with other researchers, but we will not reveal your identity with it, or any identifiable information. In order to protect the confidentiality of your responses, we will transfer and keep the data directly from this survey into data analysis software. All data and analysis will be stored with arbitrary ID numbers and be secured on password protected machines. Analysis of the data will no include any specific participant scores.

**FURTHER INFORMATION:** If you have any questions or would like additional information about this study, please contact Nicolas Barreto ([nicolas.barreto@cgu.edu](mailto:nicolas.barreto@cgu.edu)), Department of Behavioral and Organizational Sciences, 123 E. 10<sup>th</sup> St. Claremont, CA, USA 91711. You may also contact Michael Hogg at ([Michael.Hogg@cgu.edu](mailto:Michael.Hogg@cgu.edu)). The CGU Institutional Review Board has approved this project. If you have any ethical concerns about this project or about your rights as a human subject in research, you may contact the CGU IRB at (909) 607-9406 or at [irb@cgu.edu](mailto:irb@cgu.edu).

**CONSENT:** Your agreement below means that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it.

### College Check Questions

Variable	Question
Attendance	Before we get started, are you currently enrolled at a college or university?
Department	From the list below, please select the department your major is in.

## APPENDIX B: DESCRIPTION OF THE HYPOTHETICAL GROUP

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	Condition
Study 1	You have been selected to be part of a group representing your [ <i>insert major from pervious question</i> ] department as part of a fundraising opportunity. This group will be responsible for arguing the department's case to a board of a charitable fund. The board will vote on whether to give your department additional funding. Your department is the only department being considered for this funding [Your department is one of many [ <i>insert major</i> ] departments being considered for this funding].
Study 2	You have been selected to be part of a group representing your [ <i>insert major from pervious question</i> ] department as part of a fundraising opportunity. This group will be responsible for arguing the department's case to a charitable fund. Your department is the only department being considered for this funding. However, to obtain funding your group will need to convince the head of the fund, who will decide if your department receives the award using a detailed rubric to grade the presentation. [who will decide how much to award your department (going as low as nothing) based on how much they like the presentation].

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## APPENDIX C: DEPARTMENT AND GROUP IDENTIFICATION MEASURES

### Identification with Department

**INSTRUCTIONS:** Please indicate the extent to which you *disagree* or *agree* with the following statements.

	Strongly Disagree	1	2	3	4	5	6	7	8	Strongly Agree
1. I identify with the [insert department] department.										
2. The [insert department] department is important to me.										

### Identification with Task Group

**INSTRUCTIONS:** Please indicate the extent to which you *disagree* or *agree* with the following statements.

	Strongly Disagree	1	2	3	4	5	6	7	8	Strongly Agree
1. I identify with the group representing the [insert department] department.										
2. The group representing the [insert department] department is important to me.										

## APPENDIX D: LEADER DESCRIPTIONS

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Variable	Condition
Specific	Red Leader: “I believe that I am the best choice to be the leader because I have a great deal of experience writing and giving presentations in general. Some of those presentations were funding presentations like the one we will give.”
Diffuse	Green Leader: “I believe that I am the best choice to be the leader because I am a senior [department] student, I have taken a number of [department] courses, I am in excellent academic standing and am a generally likable person.”
Prototypicality	Blue Leader: “I believe that I am the best choice to be the leader because I feel as though I represent the interests, values, and opinions of [department] students very well. I fit in with the culture and climate of the [department] department because I also share these same interests, values, and opinions.”

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## APPENDIX E: LEADERSHIP RANKING

**INSTRUCTIONS:** Please rank the leaders from who you would most like to lead the group to least, as if it was a vote.

Options	List
Red Leader	
Green Leader	
Blue Leader	

## APPENDIX F: LEADERSHIP RATINGS ITEMS

**INSTRUCTIONS:** Please answer the following questions about each leader.

	Strongly Disagree	1	2	3	4	5	6	7	8	Strongly Agree
1. This person will be an effective leader.										
2. This person will represent the interests of [department] students well.										
3. This person fits in well at [department].										
4. I will be a strong supporter of this student leader.										
5. I think this person will do the right things.										
6. I think this leader is trustworthy.										
7. This person is committed to [department] students.										
8. This leader wants the best for [department] students.										
9. I will like working together with this leader.										
10. This person will lead in a way which motivates other students.										

## APPENDIX G: LEADER ASSUMPTIONS QUESTIONS

**INSTRUCTIONS:** Please answer the following questions about each leader.

When you think about each leader....										
1. ...do you imagine this student as male or female?	Male				Female					
2. ...what year do you imagine this student is in?	Freshman	Sophomore	Junior	Senior						
3. ...how old do you think this student is?	_____ years old									
4. ...how typical of [department] majors is this student?	Not very typical	1	2	3	4	5	6	7	8	Very Typical 9
5. ...how much experience with this kind of task do you think this student has had?	No experience	1	2	3	4	5	6	7	8	A lot of experience 9

## APPENDIX H: DEMOGRAPHICS

**INSTRUCTIONS:** Please provide us with some demographic information about yourself.

1. Please indicate your sex:
  - a. Male
  - b. Female
  - c. Other \_\_\_\_\_
  
2. Please indicate your ethnicity:
  - a. White or Caucasian
  - b. Black or African American
  - c. Hispanic or Latino
  - d. Asian
  - e. Native American/Alaskan
  - f. Other \_\_\_\_\_
  
3. Please indicate your age \_\_\_\_\_
  
4. What year in college are you?
  - a. Freshman
  - b. Sophomore
  - c. Junior
  - d. Senior
  - e. Super senior
  - f. Other \_\_\_\_\_
  - g. Not currently attending college