I’m the Leader! How Shared Leadership Leads to Territoriality

Catrina MaryJane Notari
Montclair State University

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Abstract

Although research on shared leadership is growing (Zhu, Liao, Yao, & Johnson, 2018), to date, little to no research has focused on how differing expectations of the role of the leader and the role of the followers impact the leader, the followers, and the team as a whole. Shared leadership is typically presented as a benefit to both leaders and followers; however, there can be a dark side too. The purpose of this study is to examine the dark side of shared leadership through leaders’ perceptions of their group and feelings of territoriality when faced with misaligned leadership expectations. Participants were placed in a group where leadership was either be expected to be individual or shared. Based on theory, it was predicted that in the control condition, the followers and the leader would expect the same form of leadership, and in the experimental condition, leaders would expect individual leadership, and followers would expect shared leadership. The leaders’ scores on measures of psychological territorial infringement (PTI) were recorded and used to determine the degree of territoriality that occurred over the leadership position. Measures of appreciation, group effectiveness, and satisfaction with the group were used to determine PTI’s effects on the leaders’ perception of their group. This study found that leaders do experience greater territoriality over their position when followers attempt shared leadership and the leader expects individual leadership. Additionally, this study found that higher territoriality negatively impacted the leader’s satisfaction with their group. The findings of this study have significant implications for both the shared leadership and PTI literatures in that it has further explored the dark side of shared leadership and has applied and found evidence of psychological territoriality over a perceived position.

Keywords: Leadership, Shared, Individual, Psychological Territorial Infringement
I’m the Leader!

How shared leadership leads to territoriality

by

Catrina MaryJane Notari

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College of Humanities and Social Sciences
Department of Psychology

Thesis Committee:

Dr. Valerie Sessa
Thesis Sponsor

Dr. Jennifer Bragger
Committee Member

Dr. Michael Bixter
Committee

Dr. Daniel Simonet
Program Coordinator
I’M THE LEADER! HOW SHARED LEADERSHIP LEADS TO TERRITORIALITY

A THESIS

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by
Catrina MaryJane Notari
Montclair State University
Montclair, NJ
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Introduction

Although research on shared leadership is growing (Zhu, Liao, Yao, & Johnson, 2018), to date, little to no research has focused on how differing expectations of the role of the leader and the role of the followers impact the leader, the followers, and the team as a whole. Shared leadership is typically presented as a benefit to both leaders and followers; however, as with all types of leadership, there are possible issues and problems too. For example, what are the leader’s perceptions when they believe leadership is their role, but team members attempt to share or take on leadership roles? Role ambiguity is a natural side effect of shared leadership given that it is the antithesis of traditional, top-down leadership styles. If the leader believes that leadership is wholly their role or is not prepared to share their leadership tasks, they may experience feelings of psychological territory infringement. The purpose of this study was to determine if mixed expectations (leader believes or expects that leadership tasks are theirs to enact while followers expect to share leadership) leads to feelings of psychological territory infringement in the leader, compared to when both sides expect shared leadership.

The purpose of this study is to investigate how shared leadership (in comparison to more individual leadership) influences the tendency toward territorial infringement and the impact of such infringement on the leader’s perceptions of appreciation, group effectiveness, and satisfaction. This is a previously unexplored topic within shared leadership, and this study shows whether or not people will experience territoriality over their positions and responsibilities within groups and how this possessiveness can impact their perceptions of the group.
Literature Review

Understanding Leadership

When defining leadership, it is essential first to understand that more and more researchers are viewing leadership as a construct (Drath et al., 2008), but this is not a given, and some evolutionary psychologists view leadership as an objective reality (Van Vugt & Grabo, 2015). The extensiveness to which leadership could be defined is connected to the breadth of disciplines, situations, and contexts it could be applied. However, this ambiguity provides the opportunity to explore what common frames might be found to be interdisciplinary. To provide a foundation for the contextual frame of leadership this study entails, the Winston & Patterson (2006) definition will be used, “A leader is one or more people who selects, equips, trains, and influences one or more follower(s) who have diverse gifts, abilities, and skills and focuses the follower(s) to the organization’s mission and objectives causing the follower(s) to willingly and enthusiastically expend spiritual, emotional, and physical energy in a concerted, coordinated effort to achieve the organizational mission and objectives.” This definition was designed to be an integrative definition of leadership encompassing the 90 plus variables that may help researchers and practitioners better understand the breadth and scope of leadership (Winston & Patterson, 2006) more fully.

Three Knowledge Principles Underlying Understanding of Leadership

Although we offer an all-encompassing definition of leadership, Drath (2001) suggests that three main knowledge principles or meaning-making structures drive our understanding of leadership, such that “we know it when we see it.” Drath suggests three leadership principles that encompass the continuum of how people understand leadership-- personal dominance, interpersonal influence, and relational dialogue (Drath, 2001; Wellman, 2017). Personal
dominance is a leadership belief that leaders possess inherent characteristics, skills, and other qualities. The leader sets the vision and direction, and colleagues follow. It is a hierarchical process and command and control style of leadership. Leadership is what the leader does (Drath, 2001). Interpersonal influence is defined as a leadership belief that leadership is a role. The leader emerges because they have the most influence in the group in a given situation. The leadership role may change as the situation requires (and followers accept) the influence of a different group member (Drath, 2001). Relational Dialogue is the belief that leadership is the property of the system. Underlying this knowledge principle is the belief that individuals do not possess leadership; leadership emerges in the relational process of people working together. It occurs when people collaborate to accomplish tasks together; through these actions, they come to an agreement on what leadership is in this situation. Thus, everyone is involved in making meaning about leadership regardless of their role. When there is an identified leader, their actions are an aspect of participation in leadership (Drath, 2001, see also Wellman, 2017).

Three Constructions of Leadership Identity

A leader’s identity is contingent in part on the leader’s knowledge principle about leadership (Drath, 2001). Day & Harrison (2007) define leadership identity as “the sub-component of one’s identity that relates to being a leader or how one thinks of oneself as a leader”. Self-identification ranges based on similarities or differences based on other individuals (personal identities) or group membership (social identities). Self-identities help in the regulation of cognition, affect, and behavior (Lord & Brown, 2001). Lord et al. (1991) suggest a multilevel view of leadership identity with three Levels-of-Self (individual, relational, and collective). The individual self is differentiated, driven by self-interest, and uses traits as the basis of self-evaluation. The relational self is derived from connections and role relationships with significant
others, and the collective self is derived from meaningful group memberships. All three selves come together to form an individual’s leadership self-identity (Lord et al., 1991; Day & Harrison, 2007); however, they may or may not be active at different times.

A person’s understanding of leadership through Drath’s three principles informs their levels of leadership identity. This means that an individual’s understanding of leadership helps to inform their own self-identity (Wellman, 2017). For example, if one views leadership through the lens of personal dominance, the individual self will be viewed as having innate qualities that make you a leader, the relational and collective selves will be focused around followers who do as the leader says and adhere to a traditional view of leadership.

There is some belief that leadership is socially constructed based upon each situation (Drath, 2001; Drath & Palus, 1994, Wellman 2017), but there may be instances where it is difficult for the team to come to a common understanding of the expectation of the type of leadership needed or expected (e.g., a virtual group that comes together to do a project, then disperses). Alvesson (2017) indicates that there are two dimensions to how a breakdown between leaders and followers can occur. The first is the construction or understanding of the character of the leadership/followership relation, and the second is the degree of overlap or diversity in the assessments of quality/value of influencing efforts (Alvesson, 2017). This means that the breakdown can either occur in how behaviors are viewed or how the value of the behavior and the overall goal is viewed. The two dimensions form continuums (see Figure 1 below). They do not represent fixed positions. Often leadership relations can change, that is, from various forms of misfit to alignment.
As seen in Figure 1, there are four versions of leader-follower convergence and divergence. High-alignment, which is a form of convergence, means that there are shared meanings between leader and followers of the leadership carried out and how to assess the value of the leadership (Alvesson, 2017). This is what we would expect to see when leaders and followers have the same expectations of the task and the type of leadership the task will require. Value divergence indicates that the parties have a broadly similar understanding of the leadership needed but vary in assessing the quality or relevance of the task. Similarly, construction divergence would indicate different views of what goes on but still similar in assessing the value of a specific leadership ideal (Alvesson, 2017). Multiple breakdown means that there is a divergence in both what approach should be taken for leadership and the task and how this is evaluated, and this is what we would expect to see if leaders and followers have varying ideas about the type of leadership to use (Alvesson, 2017).
What happens when there are mixed expectations regarding appropriate leadership (roles) between leaders and followers? Alvesson’s framework on multiple breakdown would suggest that the misalignment between leaders and followers with differing leadership expectations would be in how they will view each other’s behavior and maybe also in how they view the importance of each other’s tasks. Alvesson’s first dimension suggests that the same behavior may be given different meanings, so people will vary in how they view a relationship. Alvesson’s second dimension suggests that the team may agree that the leader is trying to lead the group, but they may disagree on the value and relevance of their behavior. As such, followers expecting shared leadership may view the behavior of a leader attempting traditional or individual leadership as controlling and may view their actions as of little value since the group is sharing leadership.

**Individual/Vertical Leadership**

Traditionally, leadership has been seen as an interpersonal, relational process, and a view of leadership as a formal, top-down construct still persists (Marchiondo, Myers, & Kopelman, 2015). Individual, or traditional, leadership is what most people imagine when picturing leadership and, until more recent decades, has been the basis for most leadership research. In this form of leadership, the leader has the full and final say in decision-making and directs those below them. Traditional examples of this type of leadership include monarchs, dictators, and even patriarchal homes where the male is the head of the household. In an individual structure, decisions are from top-down, so leaders make the decisions for the followers, and this literature encompasses vertical leadership literature, so for the purposes of this study, the term individual leadership will be used (Wellman, 2017; Pearce & Sims, 2002). In this leadership style, the leaders do not ask or entertain any suggestions or initiatives from subordinates. However, this
type of leadership is still often necessary and can be the best type of leadership for a given situation, particularly if the followers are less developed with respect to leadership or concerning their experience and knowledge of the goals and process to reach them (Drath et al., 2008; Day 2001). This style of leadership has been successful in certain circumstances as it provides strong motivation to the manager. It permits quick decision-making, as only one person decides for the whole group and keeps each decision to themselves until they feel it needs to be shared with the rest of the group.

A top-down approach is where the leader is the primary or only decision maker and makes all of the decisions of how something should be done. This approach is disseminated under their authority to lower levels in the hierarchy, who are, to a greater or lesser extent, bound by them. In this way, the leader is the primary source of influence to the followers, including managing strategies, strategic decisions, and direction toward a common goal (Wellman, 2017). In this leadership approach, followers do not have a say in the group’s decision-making, chosen direction and goals, or strategies.

Followers accept the leader’s individual style of leadership because there is a belief that the leader possesses inherent power, characteristics, skills, and other qualities that make them the leader (Drath, 2001). Because of this, they allow the vision and direction to be set by the leader and other group or team members follow. It is a hierarchical process and command and control leadership style, where leadership is what the leader does (Drath, 2001).

**Shared/Horizontal/Collective Leadership**

There has recently been a turn in the leadership literature to view it as a relational construct (DeRue & Ashford, 2010). This perspective de-emphasizes leadership as a formal role determined by a position; instead, it is characterized as a socially constructed phenomenon
between group or team members (Alvesson, 2017; Dias & Borges, 2017). More recently, this collective perspective has been brought to bear in leadership identity construction theory, which conceptualizes a process by which individuals come to be seen, by themselves and others, as leaders (Marchiondo et al., 2015). Collective leadership is “a dynamic leadership process in which a defined leader, or set of leaders, selectively utilize skills and expertise within a network, effectively distributing elements of the leadership role as the situation or problem at hand requires” (Zhu et al., 2018). Collective leadership focuses on the importance of relational processes and multiple formal leaders using unique skill sets to accomplish team tasks.

Another term for this collective style of leadership is shared leadership. Like collective leadership, and in contrast to traditional leadership perspectives, which consist of a largely hierarchical structure centering around a singular leader, shared leadership is a leadership style that broadly distributes leadership responsibility, such that people within a team and organization lead each other (Carson, Tesluk, & Marrone, 2007). It is difficult to find a set definition for shared leadership since, like the broader field of leadership, shared leadership’s definition has evolved over time. Pearce and Sims (2002) provide one of the first formal definitions of the construct, referring to shared leadership as “the serial emergence of multiple leaders over the life of a team.” The concept of shared leadership has also encompassed and built upon the horizontal leadership literature. Horizontal leadership is characterized by sharing leadership in decision-making (Muller et al., 2018). It can be described as leadership shared equally among a group, where the whole group has a say in the team’s direction and assumes that there is value in a collective voice by giving all members of a group a say in what occurs.

Zhu et al. (2018) provide the first comprehensive literature review for shared leadership. They found that the three most common characteristics of these varying definitions include
lateral influence, emergence, and dispersion. A lateral influence among peers posits that, unlike traditional models, leadership occurs within the same group level rather than a group of peers led by a single leader. A horizontal influence is key within shared leadership, as a centralized leader may impact power distribution among the team members. Specifically, shared leadership encompasses the concept of horizontal leadership since it includes lateral influence among team members, which contrasts with individual leadership influence derived from a formal position. So, for the purposes of this study, the term used will be shared leadership since prior shared leadership literature has built upon both collective and horizontal leadership literature.

The fundamental difference between shared and individual leadership in groups is who is making decisions. In an individual structure, decisions are from top-down, so leaders make the decisions for the followers. In a shared leadership structure, followers are empowered to take part in the decision-making process and can be given an equal voice in the direction of the group. The following key characteristic states that shared leadership is an emergent phenomenon, unlike other approaches that assert that leadership is innate to the individual (Zhu et al., 2018). Hiller et al. (2006) describe shared leadership as a process rather than a trait or event, making it more malleable depending on the team characteristics. The final trend among shared leadership definitions is that the roles and influence within the group are dispersed between the members (Zhu et al., 2018). The final and most comprehensive definition of shared leadership, according to Zhu et al., is “an emergent team phenomenon whereby leadership roles and influence are distributed among team members” (2018). This definition bridges the gaps in shared leadership literature, and it helps to define how shared leadership occurs in teams.

Recognizing that leadership reflects more than formal status and role definitions, theories of leadership have evolved from predominantly top-down, hierarchical perspectives toward
centered models. Because of this transition, we may expect to see followers who may be more likely to take on traditional leadership roles despite not formally being the group leader. This distinction between relational leadership and the individual makes it more likely that a group leader’s role is more likely to be infringed upon.

Role Ambiguity

This study looks at the understanding of roles surrounding leadership positions, i.e., leader and follower roles, and any possible role ambiguity that may occur when a leader expects one form of leadership but the leadership in a group does not follow these expectations. To understand role ambiguity, it is important to understand role clarity, which is individuals perceiving they have a clear understanding of their expected role and behaviors within and surrounding their position (Vullinghs et al., 2020). An individual experiences role clarity only when they know what they need to deliver and what is expected out of them. Leader role clarity is not limited to the description of the role. It is comprised of the responsibilities associated with the position and outward expectations aligning with the reactions and behaviors of the followers (Vullinghs et al., 2020).

Role ambiguity occurs when people do not have clear-cut direction, and they are unclear what is expected out of them, and it can describe the lack of clarity, certainty, and predictability one might have expected with regards to behavior in a role (McCormack & Cotter, 2013). In leadership, role ambiguity can occur when either the leader’s expectations of leadership do not align with the instructed leadership or the followers’ reactions, or both. Perceptions of role uncertainty are at the core of many stressors, role ambiguity is no exception, and uncertainty can result in many negative consequences. Role ambiguity is associated with stress, lower perceptions of justice and support, and dissatisfaction with leadership and teams (McCormack &
Cotter, 2013). In this way, it is possible that group leaders experiencing role ambiguity may have more negative perceptions of their group’s followers than those experiencing role clarity.

**Psychological Territory Infringement**

One reaction a leader might have when there are mixed messages regarding leadership in a team is that they may feel a sense of Psychological Territoriality Infringement. Psychological territoriality is a pattern of attitudes and behavior held by a person or group that is based on perceived, attempted, or actual control of physical space, objects, or ideas, which may involve habitual occupation, defense, personalization, and marking of territory (Brown, Crossley, & Robinson, 2013). A territory is anything that a person defines as their own (Brown & Robinson, 2011). Territorial feelings and behaviors are important, pervasive, and yet largely overlooked aspects of groups. Organizational members can and do become territorial over physical spaces, ideas, roles, relationships, and other potential possessions in organizations (Brown, Lawrence, & Robinson, 2005). These feelings of territoriality can lead to feelings of ownership. Psychological ownership is when an individual experiences a cognitive-affective state in their interactions with objects, locations, or ideas, and the individuals feel as though the target object is “theirs” (Pierce, Kostova, & Dirks, 2003). As Pierce et al. (2003) discuss, individuals can feel ownership toward their work, their organization, their jobs, and performance-based roles. When a perception by an individual indicates that someone else has attempted, without permission or entitlement, to claim, take, or use a territory that the individual believes belongs to them, this is known as psychological territorial infringement (PTI) (Brown et al., 2005).

Despite this research, psychological territoriality still represents a relatively small research area in organizations and a completely new research area in leadership literature. Brown and Robinson (2011) examined how territorial infringement leads to anger and reactionary
defenses at work. Using a cognitive appraisal theory of anger, they posited that a perceived infringement evokes anger that, in turn, fuels reactionary defenses. They found that employees are territorial over a wide variety of things at work, and they react negatively when they perceive an infringement of these territories. This psychological territoriality impacts working groups, to where it can deteriorate the group’s effectiveness and perceptions. Brown and Baer (2015) took this research a step further by applying territoriality to something non-tangible, creativity, by examining the impact of the territoriality of one’s ideas on others’ invited creativity when asked to provide feedback. This study highlighted that territoriality could be applied to ideas and concepts apart from tangible objects.

The literature of psychological territoriality of ideas lends itself to leadership literature since leaders often take psychological ownership of their positions, which may lead to territorial behaviors of claiming and anticipatory defending (Brown et al., 2013). Additionally, the role ambiguity experienced by leaders with differing leadership expectations compared to followers will lead to additional negative perceptions of their group, which may include a higher chance of experiencing territoriality of their position and perceiving infringement on their position (McCormack & Cotter, 2013). There is a lack of literature analyzing how followers’ actions can impact a leader’s perceptions of the group and their position as a leader. In this way, leadership literature has little to offer in explaining how followers can dredge perceptions of psychological territoriality from a leader (Lord & Maher, 1991; Brown et al., 2013). Prior research on psychological territoriality in roles could suggest that when a leader experiences a situation in which someone infringes upon roles that would typically be the responsibility of the leader, they may experience PTI or a behavioral expression of his or her feelings of ownership toward a physical or social object or role (Brown et al., 2013).
**Hypothesis 1:** The leader experiences greater psychological territorial infringement when the leader expects individual leadership and the followers expect shared leadership than when both the leader and the follower expect shared leadership.

**Impact of Leader Territoriality Infringement on Leader Perceptions**

According to (Taylor 1988), there are three types of possible infringement. The first form of infringement is invasion, in which an outsider physically enters someone else’s territory, usually with the intention of taking it from its current owner. The second form of infringement is violation, a temporary infringement of someone’s territory. Usually, the goal is not ownership but annoyance or harm. The third form of infringement is contamination, in which the infringer fouls someone else’s territory by putting something awful in the territory.

Studies have found that perceived psychological territoriality infringement brings about anger that, in turn, initiates reactionary defenses (Brown & Robinson, 2011). Brown and Robinson (2011) examined how territorial infringement leads to anger and reactionary defenses at work. Using a cognitive appraisal theory of anger, they posited that a perceived infringement evokes anger that, in turn, fuels reactionary defenses.

Just as there are three ways to infringe on territories, Taylor (1988) suggests that there are three different types of defense. When someone anticipates infringement and acts to stop it before it occurs, it is called a prevention defense (Taylor 1988). An example of this would be a leader announcing their position to a group. Reaction defenses, on the other hand, are responses to an infringement after it happens (Taylor 1988). This would be a leader explaining their position as leader to a follower who took on a leadership role and telling the infringing follower to know their place. The last type is known as social boundary defense. Used at the edge of interactional territories, the social boundary defense consists of a ritual that is engaged in (Taylor...
1988). An example of this within leadership would be requiring followers to acknowledge the leader’s position at regular meetings by reporting any delegated work. The ritual of this report would be a social boundary defense.

Brown and Robinson (2011) found that infringements also evoke an emotional and behavioral response, including feelings of anger and arrogant entitlement—the perception that another was not entitled to take the actions that they did. Although most research on psychological territoriality infringement focuses on anticipatory and reactionary behavioral responses, PTI may also impact the leader’s feelings, perceptions of, and attitudes towards the team, including perceptions of team effectiveness, appreciation for the team, and satisfaction with the team.

**Feeling Unappreciated by the Team**

Appreciation in the context of leadership can be defined as recognition for positive attributes or output by others. According to Saks et al. (2002), there are three components to appreciation: (a) appreciation relates to forming adequate beliefs about how that information applies to oneself; (b) reasoning indicates putting the information together in an acceptable way; and (c) evidencing a choice refers to exhibiting one’s relevant preferences. In this way, perceptions of appreciation can be influenced by adequate beliefs, reasoning, and evidence. If one believes there to be adequate reasoning and evidence of infringement, then they may also be less likely to perceive appreciation from those who they believe infringed.

**Hypothesis 2:** Leader’s perceptions of territoriality are negatively associated with the leader’s feelings of appreciation from team members.

**Team Effectiveness**
Since psychological territoriality increases defensiveness and anger, it may also impact the leader’s perceptions of the team’s effectiveness. Costa (2003) states that team effectiveness should measure the team’s output, the state of the group as a performing unit, and the impact of the group experience on individual members. Three reasons are prompting the study of team effectiveness according to Fung & Ramasamy (2015): (a) an effective team will improve productivity and morale, (b) an effective team will facilitate teamwork between group members, and (c) an effective team will improve quality of output. Since psychological territoriality increases defensiveness and anger, it may also impact the leader’s perceptions of the team’s effectiveness.

**Hypothesis 3:** Leader’s perceptions of territoriality are negatively associated with the leader’s perception of team effectiveness.

**Team Satisfaction**

Team satisfaction can be defined as the extent to which team members are satisfied with their team’s performance as a whole and the performance of the other team members, individually and collectively (Costa, 2003). Team members with positive attitudes are often more productive. Poor attitudes can cause group members to work less effectively and, in extreme cases, can lead to sabotage or undermine specific processes and systems (Fung & Ramasamy, 2015). Psychological territoriality causes people to experience stress and discomfort, even to the point of becoming angry and defensive, so it may also impact team satisfaction.

**Hypothesis 4:** Leader’s perceptions of territoriality are negatively associated with the leader’s satisfaction with the team.

**Method**

**Participants**
This study is a part of a larger study conducted online via Zoom using small groups. The population for this study is undergraduate and graduate students from a large MidAtlantic research university that is a public, 4-year institution. All participants are traditionally aged students, with an average age of 19.31, and were currently taking at least one psychology course. A total of 13 leaders were used for this study, 6 in the experimental condition and 7 in the control condition, with 53.8% female, 23.1% White, 7.7% Black or African-American, 38.5% Hispanic or Latino, 7.7% Asian, and 23.1% identifying as multiracial. 46.2% of participants were freshmen in college, 38.5% were sophomores, and 15.4% were seniors—none of the participants were in their junior year. Participants were recruited for the study using Sona-Systems; for this reason, all of our participants took at least one psychology course the semester they participated in the study.

Measures

Seven measures were used in this analysis, and the first measure was collected in the first Qualtrics survey before the group task. The following six measures were collected after the group task, which were used to analyze the leader’s perspectives.

Demographics

Demographics were collected in a Qualtrics survey before the group task. All demographics were self-reported and included questions regarding the participants’ age, gender, ethnicity, and year in school.

Psychological Territorial Infringement

Psychological Territoriality Brown & Robinson (2011) and Brown et al. (2013) were used to measure the leader’s territoriality over their leadership position. Brown et al. (2013) was on a 7-point Likert scale from strongly disagree (1) to strongly agree (7). The original measure
contained ten questions, but only six were used in this study since four questions did not fit with this study because they expressly referred to jobs within the workplace, and this study only had a single task. Sample questions used include, “I let others know the leadership position had been given to me.” and “I felt a very high degree of personal responsibility in this leadership position.” This measure was initially designed to measure territoriality within the workplace. It can be used to determine territoriality over a variety of objects and positions/responsibilities. There are two dimensions in Brown et al. (2013), and it can be scored as two dimensions or with a total score. The two dimensions are psychological ownership and territorial behaviors. Psychological ownership is a feeling of possessiveness and attachment to a variety of objects in organizations. While the definition of what constitutes territorial behavior may change based on culture and context, it always includes the act of claiming and anticipatory defending of what someone feels psychological ownership of. Brown (2013) confirmed the measure with good reliability (\( r = .85 \) psychological ownership, \( r = .74 \) territorial behaviors).

Brown & Robinson (2011) contained 15 open-ended questions regarding territoriality requiring textual responses. This survey was also originally for the workplace and was adapted to fit this study. Four of the 15 original items were used in this study. Sample questions used include, “Do you feel that any team members tried to carry out any of your leadership responsibilities?” and “What did they do that was a part of your responsibilities as leader?”. This survey was only presented if the leader indicated that they felt their position as a leader was infringed upon by the group. This survey can be coded to record a participant’s infringement perceptions of entitlement and anger using a scale from 1 (not entitled/angry) to 3 (highly entitled/angry).

*Feelings of Appreciation*
An appreciation scale from Drury’s Organizational Assessment was used to determine the extent to which the leader felt that the group appreciated them for their contributions. The items used were pulled from section 4 of the assessment, “You and Your Role” (Drury, Kay, & Losberg, 2003). The survey has a Likert rating scale ranging from 1 to 5, with 1 indicating strong disagreement and 5 indicating strong agreement. Of the twelve items in this section, seven were used for this survey. The wording of the items was adjusted to fit this particular group task better. Drury et al. (2003) report that the instrument had alpha adequate reliability coefficients of the six dimensions, all \( r = .90 \) or above. Sample items used in this study include, “I felt appreciated by the group for my leadership.” and “I was listened to by those in the group.”

**Perceptions of Team Effectiveness**

The Team Effectiveness Questionnaire (TEQ) was used to assess the leader’s relationship with the other group members. The original survey had eight dimensions: a) purpose and goal, b) roles, c) team processes, d) team relationships, e) intergroup relations, f) problem solving, g) passion and commitment, h) skills and learning (Drach-Zahavy & Freund, 2007). The questionnaire contained 56 questions answered on a 5-point Likert scale (Strongly Agree = 5 to Disagree Strongly = 1). In the TEQ, each dimension was composed of eight statements with a maximum score of 35 and a minimum score of 7. For the purpose of this study, only seven items from the TEQ were used. For this study, only the team relationships dimension was used, and all seven items were used. This instrument was scored for each dimension by dividing the score by the number of items used in that dimension. Sample questions include, “Team members appreciated one another’s unique capabilities.” and “Team members were effective listeners.”

**Satisfaction with the Team**
To measure group satisfaction, a four-item instrument on a 5-point Likert scale from very dissatisfied (1) to very satisfied (5) was created based upon the Gevers and Peeters’s (2009) team satisfaction measure and Drury’s Satisfaction Scale (2003). These four new items were created in order to best suit the group task. The following items were used 1) “Taken as a whole, I was satisfied with the final choice of our team”, 2) “Taken as a whole, things went pleasantly within our team”, 3) “I was satisfied with our final ranking during the group task”, and 4) “If I ever had to participate in a similar project again, I would like to do it with this team”.

**Manipulation Check**

The final survey for participating leaders to complete was the manipulation check. The manipulation check consisted of two questions for the leaders and two questions for the followers designed to see if they understood their own expectations as well as the expectations they were supposed to perceive for the leader or followers. Each question had two possible answers participants could choose from, and each answer was based upon the two different possible conditions.

The first question for the leaders was, “What was your role as leader?”. The possible answers were “To lead and direct the other group members” and “To facilitate discussion and encourage all group members to participate”. Leaders who were told to expect individual leadership should have chosen the first option, and those expecting shared leadership should have chosen the second option. The second question for the leaders’ manipulation check was, “What was the role of the followers?”. This also had two possible answers, “To Listen to the Leader and Follow Their Instructions” and “To Work Together with the Leader to Complete the Task”. Since this is based on what the leaders expected to occur, leaders who were told to expect
individual leadership should have chosen the first option, and those expecting shared leadership should have chosen the second option.

The first question for the followers was, “What was your role as a follower?” The possible answers were “To listen to the leader and follow their instructions” and “To work together with the leader to complete the task”. The second question for the leaders’ manipulation check was, “What was the role of the leader?”. This also had two possible answers, “To lead and direct the other group members” and “To facilitate discussion and encourage all group members to participate”. Since all followers were told to expect shared leadership, they should have chosen the second option for both questions.

**Study Design**

This study had two different conditions in which leaders and followers were given either the same or different expectations regarding the type of leadership needed to complete the group task. There was a control group in which the leader and followers had the same instructions regarding the leadership style expected for the group task, in which both expected shared leadership. There was also an experimental condition where the leader and the followers had different expectations for leadership style. In this case, the leader expected individual leadership while the followers expected shared leadership. The experimenters collected an equal number of groups for each condition of the experiment, and all groups worked through the same task regardless of their condition.

**Procedure**

The experimenters listed the study on Sona-Systems with available timeslots. Timeslots allowed up to five participants per timeslot, and the study could be conducted with three to five participants per group. All timeslots were scheduled for 2-hour durations. Once enough
participants signed up for a time slot, they were contacted by the experimenters to verify their availability and provide them with a Zoom link for the study. This was to increase the likelihood that enough participants would show up for the study to take place. They reported to that Zoom link at their scheduled time. At least two experimenters were present during the duration of the Zoom call. If less than three students were available for a specific timeslot, the students in that timeslot would have to be rescheduled.

The experimenter(s) began by welcoming the participants and explaining the study, including the requirement to have the video on and a working mic for the study duration. All participants received a Qualtrics link with a survey containing the adult consent form. They received this survey via the chat feature on Zoom. Any participants who did not wish to consent were thanked for their time and removed from the Zoom call. All other participants continued through the survey to complete the demographic questions and a questionnaire assessing various leadership beliefs and behaviors, which subjects were told was used to select the leader. The experimenter informed the participants that this survey would determine the leader for the group task that would follow the completion of the survey. The purpose of the leader being told the choice is based upon merit was to increase the likelihood that the leader would identify with their position and become more territorial. Participants received 15 minutes to complete this survey.

Despite the participants’ belief that the leadership position was chosen through merit, all leaders were randomly assigned, and their placement was not be based upon merit. The leader was chosen on a rotation based upon when the participants entered the study. For example, for each study, it was predetermined that either the first, second, or third participant to join the Zoom would be the leader. Only up to the third participant was included in the rotation even though up to five could sign up because the minimum number of participants to run the study was three.
Each group had one designated leader going into the group task, and all other students were followers. The leader was brought into a breakout room with one experimenter, while the followers remained in the main room on the Zoom call with the second experimenter. All participants were privately messaged their expectations for the leadership needed during the group task by the experimenters via Zoom while the experimenter read them aloud. The participants were then each asked to verify their understanding of the task and expectations by reiterating them in their own words. The assigned style of leadership read to the followers and the leader was based on the preassigned condition for each set of participants.

Once all participants verified that they understood their expectations of the leadership needed for the group task, the leader and first experimenter returned to the main Zoom room with the rest of the participants and the second experimenter. The experimenter(s) then read the instructions for the group’s task and gave the participants a time limit of 35 minutes to complete the group task. The group was informed that a corporation had requested additional data on which job candidate out of their finalists would be the best fit for an open Graphic Designer position to reduce the bias in their selection process. To reduce any bias for this study, all names, pictures, and identifying information were blocked out on the candidates’ materials. There are four finalists in total, and each was evaluated based on their resume and portfolio. Group members each received all of the materials for all four candidates and the job posting for the corporation. All materials are included in the appendix.

Participants were given a time warning when they had five minutes left. Once 35 minutes passed, or they indicated that they were done deliberating before the 35 minutes is up, the leader then received a survey to record the group’s final decision, including a ranking of the candidates and their reasonings for the ranking. The leader received this survey via the chat feature on
Zoom. The experimenter(s) then sent all participants a final Qualtrics survey via the chat feature in Zoom. The leader received additional surveys intended to measure any territoriality experienced over their position as a leader throughout the group task. The two additional surveys they received are Brown’s 2011 and Brown’s 2013 assessments. The Team Effectiveness Questionnaire (TEQ) measured the group’s effectiveness using the following dimensions: role, team processes, team relationships, problem-solving, and passion and commitment; section 4 of Drury’s Organizational Assessment was used to measure the leader’s perceptions of appreciation. The experimenters measured the group’s performance by evaluating the group based upon which candidate they chose. The end of the survey included a debrief for the participants. They also got the opportunity to ask the experimenter(s) any questions they may have, and they were asked if they still wished for their data to be used after being debriefed.

Pilot

A pilot test was conducted and included the first eight groups used in this study. The manipulation check was tested, and it was found that the leaders and followers understood and were following their given leadership expectations. Following the pilot, an 8th item was added to the TEQ, asking participants to select strongly disagree in order to check for response bias. Additionally, a step was added to remind participants of their expected leadership roles during the group task by privately chatting each participant individually through Zoom ten minutes into the group task. Because the manipulation instructions were being followed by participants during these first eight groups, their data was included in the final analyses.

Data Analysis

Analyses were conducted in SPSS 27 (IBM Corp, 2020). Differences between conditions in experiences of territoriality were assessed using an independent-samples t-test. The bivariate
relationships between territoriality and satisfaction with the group, group effectiveness, and perceptions of appreciation were assessed using Pearson and Spearman correlations and visualized with scatter plots. The manipulation check questions were tested with chi-square tests and a goodness of fit chi-square test.

**Results**

In order to test hypothesis 1 and determine if followers’ use of shared leadership would increase leader perceptions of territoriality when the leader expects individual leadership, an independent samples t-test was conducted. This was found to be statistically significant, \( t(11) = -3.744, p = .003 \) (see Table 1).

**Table 1**

*Independent Samples Test*

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>PTI</td>
<td>2.389</td>
<td>.150</td>
<td>-3.744</td>
</tr>
<tr>
<td>PTI</td>
<td>-3.988</td>
<td>7.858</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>Equal variances assumed</td>
<td>Equal variances not assumed</td>
<td></td>
</tr>
</tbody>
</table>

The effect size for this analysis (\( d = .745 \)) was found to exceed Cohen’s (1988) convention for a medium effect (see Table 2 in the appendix). These results indicate that leaders in the experimental group (\( M = 6.194, SD = .356 \)) with mixed leadership expectations experienced
a higher degree of territoriality than leaders in the control group ($M = 4.643, SD = 0.955$). Refer to Table 3 in the appendix for complete group statistics.

To test hypotheses 2, 3, and 4, separate Pearson and Spearman correlations were conducted. Due to the small sample size, these correlations used the entire sample of leaders and were not broken down by condition, and the power for these correlations was impacted by the low sample size as well.

For hypothesis 2, perceived appreciation from the followers had partial support. There was no significant relationship found with the Pearson correlation, $r(13) = -0.498$, $p = 0.083$ (see Table 4 in the appendix), but there was a significant relationship found with the Spearman correlation, $r(13) = -0.624$, $p = 0.023$ (see Table 5 in the appendix). Figure 2 below shows the scatter plot between PTI and the leader’s perceived appreciation from the followers, and despite the small sample size, a linear pattern can be seen. Based on this plot, there is one outlier, which may be contributing to the non-significant Pearson correlation.

Figure 2

![Correlation Between Leader's PTI and Perceived Appreciation From Followers](image)
For hypothesis 3, perceived group effectiveness was not supported by the correlations. There was no significant relationship found with the Pearson correlation, $r(13) = -0.080, p = 0.796$ (see Table 6 in the appendix) or with the Spearman correlation, $r(13) = -0.298, p = 0.322$ (see Table 7 in the appendix). Figure 3 below shows the scatter plot between PTI and the leader’s perceived group effectiveness, and despite the small sample size, a semi-linear pattern can be seen. Based on this plot, it is possible that additional data may have shown a stronger linear relationship and led to a stronger correlational analysis.

Figure 3

![Correlation Between Leader's PTI and Perceived Group Effectiveness](image)

For hypothesis 4, perceived satisfaction with the group was supported by the correlations. There was a significant relationship found with the Pearson correlation, $r(13) = -0.571, p = 0.041$ (see Table 8 in the appendix) and with the Spearman correlation, $r(13) = -0.624, p = 0.023$ (see Table 9 in the appendix). Figure 4 below shows the scatter plot between PTI and the leader’s perceived satisfaction with the group, and despite the small sample size, a linear pattern can be seen, supporting the findings of the correlational analyses.
The two questions given to the leader for the manipulation check were tested with chi-square tests. Question 1, “What was your role as leader?”, was found to be statistically significant, $\chi^2 = 9.551, p = .002$ (see Table 10 in the appendix), and question 2, “What was the role of the followers?”, was also found to be statistically significant, $\chi^2 = 13.000, p = .0001$ (see Table 11 in the appendix). This shows that the leaders understood the leadership expected of them and what they perceived was expected of the followers given for each manipulation. The followers in both conditions were instructed to expect shared leadership, so a goodness of fit chi-square test was used. The two questions given to the follower for the manipulations check, “What was your role as a follower?” and “What was the role of the leader?” were found to be statistically significant with $\chi^2 = 19.200, p = .0001$ and $\chi^2 = 13.333, p = .0001$, respectively (see table 12 in the appendix). Table 13 below gives the frequency of the follower’s expectations of either individual or shared leadership, and the majority of followers expected the leader and the
followers to use shared leadership, which shows that the manipulation and instructions were effective.

**Table 13**

<table>
<thead>
<tr>
<th>What was your role as a follower?</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>3</td>
<td>15.0</td>
<td>-12.0</td>
</tr>
<tr>
<td>Shared</td>
<td>27</td>
<td>15.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What was the role of the leader?</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>5</td>
<td>15.0</td>
<td>-10.0</td>
</tr>
<tr>
<td>Shared</td>
<td>25</td>
<td>15.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discussion**

Within territoriality literature, there are studies viewing territoriality surrounding objects within a group or office setting, such as a stapler or a desk. However, there is currently no research on the perceptions of territoriality that a person can develop surrounding their position as a leader (Brown et al., 2013). This study framed territoriality in a new way, applying the concept to a conceptual role. Additionally, perceptions of territoriality have yet to be studied within a scenario where there is shared leadership within a group or team with a driven purpose or task (Zhu et al., 2018).

The purpose of this study was not only to test if people can develop psychological ownership and a sense of territoriality surrounding their position but also how that sense of territoriality can affect their perceptions of their team. It was found that within a group, a leader can experience territoriality surrounding their position, and these feelings can be exacerbated when they perceive another team member or members may be infringing upon their given and rightful position. Furthermore, it was found that higher feelings of territoriality were related to
the decrease in the leader’s perceptions of group satisfaction, and a decline in the leader’s feelings of appreciation from the group was partially supported.

The first research question was based upon a call for future research by Zhu et al. 2018, and it was postulated that it was possible for leaders to develop a sense of psychological ownership over their position and begin to feel territorial of that position if they felt it was threatened. This study found that leaders do feel territorial over their position as a group leader and that feeling is stronger when they feel that other members of the group are infringing upon their position by taking on aspects of a traditional leadership role. When responding to a question regarding the infringement and why they felt a member infringed, one of the leaders in the experimental group stated that “They tried to make the final list for me and not really listen to circle and I.” This indicates that the infringing member of the group took on an additional role that the leader would typically hold, and this response was coded at a 2 for entitlement to the position and anger at the infringement. While leaders in the control group may also have experienced territoriality, it was not to the degree of those in the experimental group. This is evident by a control group leader’s answer to the question “Was the leadership position important to you?” from Brown 2011, in which they responded that “It felt important, but I didn’t want them to see me as a leader. I didn’t want to put myself above anyone.” This response was coded at a 1 and showed a low degree of perceived ownership and no feelings of entitlement or anger over the leadership position.

The second, third, and fourth research questions began to focus on the possible consequences the territoriality could have on the leader’s perceptions of their group. The second research question focused on the leader’s perceptions of appreciation by the team, and the third focused on perceptions of team effectiveness, despite fairly linear scatter plots. Hypothesis 2 was
partially supported by the data, but hypothesis 3 yielded no significant results and was not supported. Why this may be the case is discussed below in the limitations section. For the fourth research question, it was hypothesized that feelings of territoriality could lead to lower perceived satisfaction with the group due to the negative association of the followers infringing upon the leader’s position. This study did find that there was lower satisfaction perceived by leaders who also had greater feelings of territorial infringement.

Group projects can help students develop a host of increasingly essential skills in the professional world, making it a common occurrence in college classrooms (Caruso & Woolley, 2008). Positive group experiences, moreover, have been shown to contribute to student learning, retention, and overall college success (National Survey of Student Engagement, 2006). While the potential learning benefits of group work are significant, simply assigning group work is no guarantee that these goals will be achieved. In fact, group projects can – and often do – backfire badly. Despite only two hypotheses being supported, this study provides evidence of a dark side to group work that can negatively impact a leader and the leader’s perceptions of the group as a whole and may contribute to why group work does not always work as well as intended. This can shed light on how group work can begin to fall apart and why leaders may leave a group project feeling frustrated with other group members.

**Theoretical Implications**

This study contributed to both the territorial literature and the leadership literature in a few ways. First, this is the first time that territoriality has been studied in regard to a leadership position. This was a suggested future direction for shared leadership literature discussed in a review of shared leadership by Zhu et al. (2018). Second, this is also the first time that the concept of territoriality has been applied to a conceptual position instead of a tangible object or
an idea, and this provides evidence that leaders can take psychological ownership of their position and perceive infringement regarding it. While it has previously been applied to various concepts in the workplace, such as office equipment, projects, and ideas, applying territoriality to a leadership position is an entirely new direction for PTI literature (Brown & Robinson, 2011; Brown et al., 2013; Brown & Baer, 2015). Lastly, this study also provides evidence that perceptions on infringement can impact a leader’s perceptions of their group in the form of their overall satisfaction with the group. This adds to the literature that studied other effects of PTI, such as anger and stress, and also adds possible consequences to shared leadership when leadership expectations between leaders and followers do not match (Brown & Robinson, 2007; Brown & Robinson, 2011; Zhu et al., 2018). Ultimately, this study begins a new research topic that builds upon the understanding of both what can be perceived as psychologically owned and how this ownership can lead to a dark side of shared leadership.

Practical Implications

Love it or hate it, collaborative group work is commonplace on college campuses, and understanding a possible dark side to group work can help prevent miscommunications and negative perceptions surrounding groups. Additionally, group work is prevalent outside of the classroom as well, particularly in the workplace. The COVID-19 pandemic has caused a shift in interpersonal interactions, where most interactions have moved online, including work, and this shift started even before the pandemic with the ever-increasing number of multi-national companies. With most work currently being online, this study is currently particularly relevant, and remote work will likely continue to be a part of most people’s lives in some capacity even after the effects of the COVID-19 pandemic have subsided (Phillips, 2020). This study can help inform ways to frame group work to make sure that expectations between leaders and followers
match in order to maintain a cohesive group. Keeping expectations consistent can also help to mitigate negative perceptions of the leader regarding their group. By choosing either individual or shared leadership to fit the group task and making sure that expectations in leadership remain consistent, psychological ownership can be avoided, or if it does occur, infringement can then be avoided. If PTI does occur, however, this study can help to explain the possible negative perceptions the leader may have of their group, which can help to inform teachers, coworkers, and managers that these perceptions the leader holds may not accurately reflect the followers’ performance or ability to work with others.

**Limitations and Future Directions**

There are several possible limitations to this study. The first is that this study was entirely conducted online, and group work is more commonly in-person. This means that the results may not transfer to in-person group tasks. Another limitation is the small sample size of this study, which could have contributed to the non-significant results around group effectiveness and appreciation perceptions, despite the clear linear pattern seen in the scatter plots. Additionally, this limited sample size also means that these results may not be generalizable to other populations, such as professionals who participate in group tasks in a work setting. The final limitation is that participants only worked together for a 35-minute task that had no bearing on their grades and no consequences. This is likely not representative of actual group tasks that students would complete in a classroom setting since those tasks would likely be for a grade that would last for a much longer duration.

To address these limitations, future research should be conducted on a larger sample size and with an in-person field study in order to see if leaders still experience the same psychological ownership and negative associated perceptions during class assignments. A larger sample size
would allow for additional analyses to be conducted and further strengthen the support for the
leaders’ experience of PTI in groups and the effects it can have on their perceptions of their
followers, such as ANOVA and regression analyses. This can also see if grading the assignment
would exasperate feelings of territoriality and the leader’s negative perceptions of the group.
Future research should also focus on whether leadership perceptions can negatively impact group
performance and cohesion and what, if anything, the followers perceive when territoriality
occurs in a group. This can help to inform the full extent of the impact that territoriality can have
upon group work.
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https://doi.org/10.1177/0266382120953087


Appendix

Figure 1. Key Dimensions in Alignment-Misfit

Discrepancy in the assessment of the quality/value of what goes on

Value divergence

Multiple breakdown

Shared construction of what goes on

High alignment leadership

Construction divergence

Diverse construction of what goes on

Similar assessment of the quality/value of what goes on

Figure 2. Correlation Scatter Plot for PTI and Appreciation
Figure 3. Correlation Scatter Plot for PTI and Effectiveness
Figure 4. Correlation Scatter Plot for PTI and Satisfaction

Correlation Between Leader's PTI and Perceived Satisfaction With the Group
Table 1. T-Test for PTI

*Independent Samples Test*

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
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<tr>
<td></td>
<td>-3.988</td>
<td>7.858</td>
<td>.004</td>
</tr>
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</table>

Equal variances assumed

Equal variances not assumed
Table 2. Effect Sizes for PTI

*Independent Samples Effect Sizes*

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<th>Standardizer</th>
<th>Point Estimate</th>
<th>95% Confidence Interval</th>
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</thead>
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<td>Cohen's d</td>
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<tr>
<td></td>
<td>Hedges' correction</td>
<td>.801</td>
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<tr>
<td></td>
<td>Glass's delta</td>
<td>.356</td>
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</table>

^a. The denominator used in estimating the effect sizes.
Cohen’s d uses the pooled standard deviation.
Hedges’ correction uses the pooled standard deviation, plus a correction factor.
Glass’s delta uses the sample standard deviation of the control group.
Table 3. Condition Group Statistics for PTI

<table>
<thead>
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<th>Group Statistics</th>
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<tbody>
<tr>
<td>Experimental Condition</td>
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<tr>
<td>-----------------------</td>
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<tr>
<td>PTI Shared-Shared</td>
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<tr>
<td>PTI Individual-Shared</td>
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Table 4. Pearson Correlation of PTI and Appreciation

*Pearson Correlations*

<table>
<thead>
<tr>
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<th>PTI</th>
<th>Appreciation</th>
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<td><strong>PTI</strong></td>
<td>Pearson Correlation</td>
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<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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</tr>
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</tr>
<tr>
<td><strong>Appreciation</strong></td>
<td>Pearson Correlation</td>
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<td>Sig. (2-tailed)</td>
<td>.083</td>
</tr>
<tr>
<td></td>
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</table>
Table 5. Spearman Correlation of PTI and Appreciation

*Spearman Correlations*

<table>
<thead>
<tr>
<th></th>
<th>PTI</th>
<th>Appreciation</th>
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</thead>
<tbody>
<tr>
<td>Spearman’s rho</td>
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<tr>
<td>PTI Correlation Coefficient</td>
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<td>.023</td>
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<td>13</td>
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<tr>
<td>Appreciation</td>
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<tr>
<td>Correlation Coefficient</td>
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<td>.023</td>
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<tr>
<td>N</td>
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</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
Table 6. Pearson Correlation of PTI and Effectiveness

*Pearson Correlations*

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<th>Effectiveness</th>
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<td></td>
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<tr>
<td>Effectiveness</td>
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</table>
Table 7. Spearman Correlation of PTI and Effectiveness

*Spearman Correlations*

<table>
<thead>
<tr>
<th>Spearman’s rho</th>
<th>PTI</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation Coefficient</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Correlation Coefficient</td>
<td>-.298</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.322</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>
Table 8. Pearson Correlation of PTI and Satisfaction

*Pearson Correlations*

<table>
<thead>
<tr>
<th></th>
<th>Brown13</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTI</td>
<td></td>
<td>- .571*</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>- .571*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.041</td>
</tr>
<tr>
<td>N</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-.571*</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.041</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
Table 9. Spearman Correlation of PTI and Satisfaction

Table: Spearman Correlations

<table>
<thead>
<tr>
<th></th>
<th>PTI</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman’s rho</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTI Correlation Coefficient</td>
<td>1.000</td>
<td>-.624*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.023</td>
</tr>
<tr>
<td>N</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>-.624*</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.023</td>
<td>.</td>
</tr>
<tr>
<td>N</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
### Table 10. Manipulation Check Leader Question 1 Chi-Squared

**What was your role as leader?**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>9.551^a</td>
<td>1</td>
<td>.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction^b</td>
<td>6.413</td>
<td>1</td>
<td>.011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>12.203</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.005</td>
<td>.004</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

^a. 4 cells (100.0%) have expected count less than 5. The minimum expected count is 2.77.

^b. Computed only for a 2x2 table
### Table 11. Manipulation Check Leader Question 2 Chi-Squared

**What was your role as a follower?**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>13.000a</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctionb</td>
<td>9.288</td>
<td>1</td>
<td>.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>17.945</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>12.000</td>
<td>1</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 4 cells (100.0%) have expected count less than 5. The minimum expected count is 2.77.
b. Computed only for a 2x2 table
Table 12. Manipulation Check Follower Chi-Squared

*Chi-Squared Test Statistics*

<table>
<thead>
<tr>
<th></th>
<th>What was your role as a follower?</th>
<th>What was the role of the leader?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square</td>
<td>19.200&lt;sup&gt;a&lt;/sup&gt;</td>
<td>13.333&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>df</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

<sup>a</sup> 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 15.0.
### Table 13. Manipulation Check Follower Frequencies

*Frequencies of Follower Manipulation Check Answers*

<table>
<thead>
<tr>
<th>What was your role as a follower?</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>3</td>
<td>15.0</td>
<td>-12.0</td>
</tr>
<tr>
<td>Shared</td>
<td>27</td>
<td>15.0</td>
<td>12.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>15.0</strong></td>
<td><strong>10.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What was the role of the leader?</th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>5</td>
<td>15.0</td>
<td>-10.0</td>
</tr>
<tr>
<td>Shared</td>
<td>25</td>
<td>15.0</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>15.0</strong></td>
<td><strong>10.0</strong></td>
</tr>
</tbody>
</table>
Appendix A. Group Task Job Posting

Job Posting

The [redacted] is currently seeking a highly motivated Graphic & Digital Media Designer with strong graphic design and video editing skills to help us shape and tell the story of Times Square. Candidate should have a strong interest in and knowledge of design trends and topics and be able to maintain and build a brand identity that celebrates the distinctive human, architectural, cultural, and historical assets of the district.

The [redacted] works to promote and improve Times Square, cultivating the creativity, energy and edge that have made the area an icon of entertainment, culture and urban life for over a century. Our goal is to celebrate and serve this multi-use district that is home to some of the world’s most famous theaters, companies, events and public spaces. More about its vision can be found here.

The [redacted] team manages the message for large scale civic events including New Year’s Eve and Solstice in Times Square as well as major public art projects produced by [redacted]. The [redacted] team manages the official website for Times Square and all official social media handles that promote the district, its businesses, and all major happenings.

The Graphic & Digital Media Designer maintains and builds upon the Alliance’s visual communications, overseeing the visual brand of the [redacted]. This position helps solidify a comprehensive brand identity that brings together all the organizations efforts to celebrate and market the distinctive assets that make up the neighborhood through printed materials, programmatic advertisements, logos, signage, and online graphics. This position will also work with the Communications team to create new digital video content to market and promote the neighborhood.

The Graphic & Digital Media Designer works with the entire [redacted] team as well as other departments within the [redacted] to achieve these goals and will also contribute to other design related initiatives.

Responsibilities include but are not limited to:
• Developing and designing a variety of print and digital materials including advertisements, posters, logos, postcards, promotional items, invitations, annual reports, and other publications

• Creating new video content that helps promote the neighborhood as well as market events and public art projects

• Overseeing and enforcing guidelines for the organization's visual brand

• Closely coordinating with the events team to update and generate design deliverables, timelines & execute on new/existing event creative

• Coordinating the inventory of all graphical work and photography/video for easy retrieval and backup

• Supporting web design efforts, including the design of website ads, banners, graphics and overseeing email marketing (e-newsletters) program

• Managing printing/mailing vendors, occasional oversight of consulting graphic design firm

Qualifications/Skills

The successful candidate will possess the following qualifications and skills.

• B/V/BFA in Graphic Design, or another design related field that can include video content design

• 2-5 years of experience in web or print graphic design, either in an agency, in-house or freelance

• Must have mastery of Adobe Creative Suite (Photoshop, InDesign, Illustrator, After Effects)

• Video editing capabilities to help create short form and long form video content

• Knowledge of printing and experience working directly with a printer is required

• Ability to collaborate with other staff and take directions from various people; ability to work in a fast-paced environment

• Strong conceptual planning, creative design, and typography skills and the ability to follow art direction and collaborate on layouts

• Must have exceptional organizational and time management skills, including handling multiple projects simultaneously and ability to shift priorities and work will under pressure; meeting tight deadlines; and reacting quickly and smoothly to changes.

Candidate must provide their resume and example digital content created by the candidate and/or a portfolio of graphic assets.
Appendix B. Group Task Resume A

ABOUT ME

Creative and detail-oriented graphic designer with exceptional skill level and experience in various mediums. Highly adept with programs in AASHTO Pavement ME Design, Synchro B, and MicroStation V8i.

SKILLS

- 7 / 10 MicroStation V8i
- 8 / 10 Synchro B
- 9 / 10 AASHTO Pavement ME Design

EXPERIENCE

Developer, Designer, Lead & Solution Architect

Reilly Group 2018-Ongoing

Reilly Group is a global IT services and solutions provider across various industries in various IT domains.

- Selected as one of the top participants for an 18-month professional development program with Texas Instruments
- Designed the layer system to enable reachability and usability in 3D
- Freelance audio designer since 2001, produced top quality audio for 40+ videogames

Lead Website Designer

Bemier 2014-2018

Bemier is an online platform dedicated to helping students with CAT Exam preparation.

- Designed 50+ mobile apps with running condition on Google Playstore
- Coordinated and executed 3 successful releases to achieve near zero touch deployment

UI/UX Designer

Schmeier 2013-2014

Schmeier is a mapping platform that allows you to plot your story by location with pictures and videos.

- Planned and designed plant layout drawings in 2D or 3D as requested by engineering department
- Managed storewide business-to-business sales practices and performance metrics to 200% annual revenue growth

EDUCATION

Bachelor Multimedia Design

Kaux “School of Arts” 2010-2014

Master’s in Internal Economics and Management

University of National and World Economy 2014-2017
Appendix C. Group Task Portfolio A

**Portfolio A**

- **Ittula**
  - Illustration

- **MIT Technology**
  - Illustration

- **Down The Rabbit Hole 2018**
  - Art direction, animation

- **Dyptik**
  - Illustration

- **Endlessness**
  - Illustration

- **Dolby**
  - Illustration

- **Diepbox**
  - Illustration

- **Highway - Maker Quarterly**
  - Illustration

- **Oxacient: Exploration**
  - Illustration

- **Brannnel Magazine**
  - Illustration

- **Bike Vesper UX**
  - Illustration, animation

- **Sun Sun Sun**
  - Illustration, animation
Appendix D. Group Task Resume B

**GRAPHIC DESIGNER**

**PROFILE**
A dynamic, creative mind with the capacity to create and execute interactive artwork in the digital space. Strives to contribute a fresh take on modern marketing with a broad set of ever-growing skills.

**CORE QUALIFICATIONS**
- Video Animation
- Digital and hand illustration
- Adobe Suite (Photoshop, Illustrator, InDesign, Flash)
- Digital Media
- Digital Campaign Development
- Project Management
- Multiple Platform Configuration
- Web Development

**PROFESSIONAL EXPERIENCE**

**LEAD DESIGNER / XYZ DESIGNS, [REDACTED] 2014 – PRESENT**
Spearhead the creative content for web and print departments of major tech company.
- Develop innovative packaging for web-based tech software products
- Manage client relations and expectations to build projects around vision, an accurate scope, and an organized project plan
- Delegate design tasks to junior designers including pagination, editing, and image manipulation
- Oversee the production of final designs and communicate all necessary changes

**GRAPHIC DESIGNER / Z MAGAZINE, [REDACTED] 2012 – PRESENT**
Contribute to a fast-paced creative team through development of content for monthly print publications and weekly web updates. Maintain specific webpages for publication’s website.
- Designed on-brand elements to incorporate in print and digital ads for subscription
- Drew up new brand guidelines and communicate throughout design department
- Formatted and corrected images for use in print publication

**CLIENTS**
- Tech: Apple, Samsung, Intel
- Retail: Home Depot, Toms, Starbucks

**EDUCATION**
- Bachelor of Art, Graphic Design / FIT, New York, New York / 2014
Appendix E. Group Task Portfolio B

Portfolio B
Appendix F. Group Task Resume C

**EXPERIENCE**

**Front End Developer / Graphic Designer**

Mills Group

**2015 - Present**

Mills Group is a professional website design company, specializing in social networking website design, development and marketing.
- Created hundreds of new banners for the website which increased the popularity by approx 20%.
- Developed 10-15 websites on different CMS platforms.
- Fashion 101 Workshops became packed with aspiring models.
- Created and increased social media channels (25% for each project).

**Web & Graphic Designer**

Schmelzer

**2013 - 2015**

Schmelzer is the first Belgian media focused on electronic sports. Being in this field has been a crazy design adventure, which included lots of Gaming Graphics, Marketing Assets, Web Design, venue Design and so on and so on.
- Coordinated trade show logistics and booth graphics; reduced costs by 30 percent.
- Currently developing two mobile applications to be released in 2016.

**Graphic Designer + Project Controller**

Mills Group

**2011 - 2013**

Mills Group is a small but prestigious aluminum manufacturer. Producing high quality products, varies from sills, doors, and windows, the customer varies from household to high rise building.
- Successful customer work with over 6 requests fulfilled.
- Designed 3 final products weekly by sorting and editing approximately 600 raw photographs.
- Prepared materials on Eco Living for all 12 IKEA stores across Canada.

**EDUCATION**

**Photographic & Electronic Media**

Maryland Institute College of Art

**2008 - 2010**

- Bachelor of Fine Arts, Digital Media

Mediegrafiker

Københavns Tekniske Skole

**2004 - 2008**

- Bachelor of Fine Arts, Digital Media

**ACHIEVEMENTS**

**Corporate Illustration**

Creating designs and illustrations that for international brands.

**Two Squirrels Ceramics**

Starting my own small Ceramics business and creating unique functional homewares. Selling them in two local stores and being a stallholder at local markets.

Instagram profile: https://www.instagram.com/twoquirrelsceramics/

**INDUSTRY EXPERTISE**

- Adobe Photoshop
- Adobe Illustrator
- Adobe InDesign
Appendix G. Group Task Portfolio C
Appendix H. Group Task Resume D

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### Personal Info

- **Date of Birth:**
- **Web Address:**
- **Phone Number:**
- **Email Address:**

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### Work Experience

- **Freelancer**
  - Self Employed
  - Services in the areas of:
    - Video Production
    - Digital Marketing
    - Website Development
    - Social Media Strategy
    - Photography & Editing

- **Communications Director**
  - New Beginnings Community Church, [***] 08/2004 - 10/2017
  - Managed and lead a 4-person team in the production of marketing projects, promotional materials (video, photography, graphic design), website design, copywriting and audio/visual needs.
  - Developed artwork and layout for print and digital signage, banners, posters, publications and flyers.
  - Led in the video production process (Pre-production, storytelling, lighting, set-design, audio, filming, editing, color-correction, exporting).
  - Serves as a creative guide for all key projects and events.
  - Oversees the organization’s social media brand strategies.
  - Consults and trains staff on effective use of technology, SaaS and technical equipment.

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### Interpersonal Skills

- **Soft Skills**
  - Self-Confidence/Positive
  - Problem Solving
  - Collaboration
  - Empathy
  - Communication

---

### Certifications

- **Content Marketing Specialist**
  - Digital Marketer 08/2017
- **Storytelling For Business**
  - Udemy 02/2016
- **Hootsuite Certified Professional**
  - Hootsuite Media 08/2015

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### Education

- **Christian Studies**
  - California Baptist University, Riverside 08/2006 - 07/2008
- **Liberal Studies**
  - Chaffey College, Rancho Cucamonga 09/1997 – 05/1999

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### Strengths Finder Themes

- **Achiever**
- **Ideation**
- **Learner**
- **Developer**
- **Maximizer**

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### Online Design Portfolio

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Appendix I. Group Task Portfolio D

Portfolio D