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WHEN FAIRNESS FAILS:  
USING TERRITORIAL BEHAVIORS  
TO COPE WITH UNCERTAINTY IN ORGANIZATIONS

by

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A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in the Department of Management  
in the College of Business Administration  
at the University of Central Florida  
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## **ABSTRACT**

Research on territorial behaviors in organizations is an emerging field (Brown, Crossley, & Robinson, 2014). Current theoretical approaches to territoriality rely heavily on a psychological ownership perspective; however, there is a wealth of theory organizational scholars can integrate from other disciplines (Altman, 1975; Ardrey, 1965; Brown, Lawrence, & Robinson, 2005). The purpose of this dissertation is to integrate an evolutionary perspective into organizational scholarship to explore new antecedents of territoriality. This research draws upon uncertainty management theory to hypothesize a moderated-mediated model predicting territorial behaviors. A measurement instrument is developed to test territoriality and findings from a three-wave field study are presented. Theoretical implications for the construct are discussed and areas for future research are suggested.

*To my parents, Vincent and Marie, your unconditional support has made all this possible. I  
could not have done this without you.*

## **ACKNOWLEDGMENTS**

I want to thank Craig Crossley for the endless support, encouragement, and faith in me to succeed. You have done far more than you should have for me in my time at UCF. Thank you to Robert Folger, Steve Whiting, and Stephen Sivo for your comments and encouragement. My learning in this program would not have been the same without your guidance.

## TABLE OF CONTENTS

LIST OF FIGURES .....	viii
LIST OF TABLES .....	ix
INTRODUCTION .....	1
Territorial Behavior in Organizations.....	5
Anxiety as a Mechanism for Territorial Behaviors .....	9
The Moderating Role of Perceived Fairness .....	10
METHOD .....	13
Sample .....	13
Procedure .....	13
Measures .....	14
Uncertainty perceptions .....	14
Justice Perceptions .....	14
State Anxiety .....	15
Territorial Behaviors .....	15
Controls.....	16
Psychological Ownership.....	16
Object Ownership .....	16
Negative Affect.....	17
DATA ANALYSIS.....	18
Descriptive Statistics .....	18
Measurement .....	18
Hypotheses Tests .....	19

DISCUSSION.....	21
APPENDIX A: FIGURES.....	26
APPENDIX B: SURVEY SCALE ITEMS.....	28
Measures .....	29
Uncertainty about management (Thau et al., 2009).....	29
General uncertainty (Rafferty & Griffin, 2006) .....	29
Perceived fairness (Ambrose & Schminke, 2009).....	29
State-Anxiety (Marteau & Bekker, 1992).....	29
General Territoriality (item development Appendix C).....	30
Territorial Behaviors Claiming/Protecting (item development Appendix D).....	30
Negative Affect.....	31
Psychological Ownership (van Dyne & Pierce, 2004) .....	31
Object Ownership (Brown, Crossley, and Robinson, 2014).....	32
APPENDIX C: INSTRUMENT DEVELOPMENT GENERAL TERRITORIALITY .....	33
General Territoriality .....	34
Item Generation.....	35
Item Testing .....	35
Item Generation Round 2.....	36
Discussion .....	38
APPENDIX D: INSTRUMENT DEVELOPMENT CLAIMING AND PROTECTING .....	39
Territorial Behavior in Organizations.....	40
Item generation .....	42
Item Validation Study 1 .....	42

Item Validation Study 2.....	43
Discussion .....	44
APPENDIX E: IRB APPROVAL LETTER.....	45
IRB APPROVAL LETTER.....	46
REFERENCES .....	54



## LIST OF FIGURES

Figure 1: Theoretical Model.....	27
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## LIST OF TABLES

Table 1: Descriptive Statistics .....	47
Table 2: Correlation Matrix .....	48
Table 3: Path Analysis Results .....	49
Table 4: Conditional Direct and Indirect Effects .....	50
Table 5: Exploratory Factor Analysis General Territorial Behavior Item Development.....	51
Table 6 Exploratory Factor Analysis Direct Oblimin Rotation: Appendix D.....	52
Table 7 External Validity and Rater Agreement: Appendix D .....	53

## INTRODUCTION

Territorial behaviors are an integral part of social and organizational life. These behaviors can signal ownership over tangible (e.g., physical objects, workspaces) and intangible (e.g. ideas, job roles) objects at work. They can also be used to let others know an object has been claimed or to set up defenses to prevent others from infringing upon these territories (Altman, 1975; Brown, Lawrence, & Robinson, 2005). Just by walking into an organization, one is inundated by symbols about who owns which territories. Nameplates, personal photographs, and degrees signal information about this space and by whom it has been claimed (Elsbach & Pratt, 2007). Locked filing cabinets, passwords on computers and files, and a protective receptionist all represent defenses set up to prevent others from making a claim on the respective territory. Traditionally, in the management literature, acting in territorial ways is thought to be a behavioral manifestation of ownership feelings (Brown et al., 2005; Brown, 2009, Brown & Baer, 2015). Although there may be positive benefits from claiming and protecting behaviors, these can also lead to negative outcomes for an individual who behaves territorially. For instance, the result of claiming and protecting behaviors can lead to the focal individual as being viewed as less of a team player (Brown, Crossley, & Robinson, 2014) and to stifling the creativity of his or her colleagues (Brown & Baer, 2015). Acts of claiming and protecting are also theorized to decrease in-role performance and increase isolation from others (Brown, et al., 2005).

To date, management scholars have focused on ownership as the primary antecedent to territorial behaviors (Brown et al., 2005; Brown, Crossley, & Robinson, 2014; Brown, Pierce, & Crossley, 2014). While feelings of ownership might be part of the motivation for claiming and defending objects in the workplace, there may be additional reasons and purposes that employees

may act in territorial ways. Indeed, territorial behaviors are evolutionarily engrained behaviors observable in non-human animals. Even timid animals who retreat to their “territories” when threatened can become uncharacteristically aggressive when defending their space. Animals also tend to mark out territories in order to feel safe and secure when procreating (Giuggioli, Potts, and Harris, 2011). Other studies show that territorial behaviors are increased in mice who win a previous territorial battle (Fuxjager, Forbes-Lorman, Coss, Aufer, Auger, & Marler, 2010). It is unknown if animals can even comprehend ownership in the way that humans do. Further, humans can react to territorial infringements without recognizing ownership of a territory, such as defending common spaces like a break room or monitoring access to a conference room. Thus, while the psychological ownership perspective can provide some important insights into the study of territoriality in organizations, it might not account for instinctive behaviors of territoriality. Nevertheless, at this early stage in development of the territoriality construct, little is known about other potential antecedents and contexts that give rise to territorial behaviors in organizations.

One such context where we might expect to see territorial behaviors manifest is under conditions of uncertainty. Organizations are constantly facing change (Greenwood & Hinings, 2006) that can create ambiguous feelings about the future (Lind & van den Boss, 2001). *Uncertainty* is defined as “an individual’s perceived inability to predict something accurately” (Millikin, 1987, p. 136). Management and psychology scholars have realized the importance of studying the question of how individuals cope with uncertainty. Ashford and Cummings (1985) suggest that individuals are more likely to seek out feedback about their performance under conditions of uncertainty. Hogg (2000) suggests that when we are not sure of future outcomes, this has adverse effects on a person’s beliefs, attitudes and perceptions, and thus people are

motivated to seek out ways to reduce uncertainty. One way that uncertainty can be reduced is through general fairness perceptions (Lind & van den Boss, 2001). When a person is unable to predict future outcomes, they may look to how fairly they have been treated in the past to lessen their anxiety. However, if fairness fails to provide relief, individuals would be motivated to seek out other uncertainty reducing behaviors.

Behaving in territorial ways may provide people with some respite from the psychological strains of uncertainty. Why do animals prefer a home in one range rather than to migrate across the land with the ebb and flow of resource demands?<sup>1</sup> Animals find solace in territories for many reasons. For some it is the security of food, others safety for their young, and for others still it reduces the uncertainty of what predators may be lurking in the shadows (Ardrey, 1966, 1970). Likewise, humans may be motivated to be territorial for more reasons than ownership and it might serve an important psychological function, namely, feelings of safety. Paleolithic humans have been observed to behave in similar ways despite large geographic distances ranging from the Philippines to the Congo. Each set of people abandoned the nomadic way of life to claim and defend a territory rather than face the uncertainties of life in the wild (Ardrey, 1966).

One theoretical lens that could explain the relationship between uncertainty and territoriality is uncertainty management theory (UMT) (Lind & van den Boss, 2002). This theory argues that uncertainty makes justice judgments more impactful on organizational outcomes. One central implication of UMT is that perceptions of unfair treatment at times of organizational change will result in resistance to that change (Lind & Van den Bos, 2002). This resistance

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<sup>1</sup> Of course, some species do migrate – particularly in Saharan Africa where animals are forced through necessity to migrate to water sources. Yet even after the dry season, these animals tend to revert to their prior territories when the rainy season returns.

would likely arise from the need to reduce anxiety that accompanies the unpredictability of change. In the absence of fairness as an agent to reduce the stress of being unsure about the future, employees will seek out other avenues to reduce anxiety. Territorial behaviors increase feelings of safety and reduce anxiety (Altman, 1975) and are one way that employees can take matters into their own hands to relieve themselves of the psychological effects of uncertainty in the workplace.

The purpose of the present study is to use UMT to examine how negative fairness judgments can moderate territorial behaviors related to uncertainty. This paper makes three contributions to the literature. First, this paper offers insights into the manifestation of territorial behaviors by highlighting the importance of context (uncertainty) and emotions (anxiety) as alternative antecedents of territoriality over and above feelings of ownership. In doing so, I extend the theoretical scope of territoriality and empirically link this construct to a broader array of motivations for these behaviors. I argue that territorial behaviors arise from higher state anxiety because these behaviors serve the important function of contributing to feelings of security. Second, I move beyond uncertainty management theory to suggest that when fairness fails, individuals will search for other means to reduce uncertainty and the psychological distress it causes. Uncertainty is related to a lack of control over one's life (Hogg, 2000) and in response, individuals may "dig in" and exert control over what they can. Thus, territorial behaviors are an anxiety and uncertainty reduction mechanism which suggests a strong motivation for this human behavior. Third, this paper contributes to uncertainty management theory by explaining the mechanism (state anxiety) through which fairness perceptions in conditions of uncertainty can lead to territorial behaviors such as "digging in." In doing so, I also answer calls to include affective mechanisms into justice research (Colquitt et al., 2013; Colquitt & Zipay, 2015).

This paper proceeds as follows: First, I elaborate on how territorial behaviors can arise from feelings of uncertainty. Then, I propose that anxiety may mediate the relationship between uncertainty and territoriality. Lastly, I argue the (indirect) relationship between uncertainty and territoriality (via anxiety) is stronger when people perceive that those in control are unfair.

### **Territorial Behavior in Organizations**

In the literature, territorial behaviors in organizations are thought to be a behavioral manifestation of ownership feelings and can include proactively claiming and reactively protecting one's territory (Brown et al., 2005; Brown, 2009, Brown & Baer, 2015). These behaviors stem from feelings of ownership and the desire to claim exclusive possession over an object. Objects, as used in prior research (Brown et al., 2014), can refer to physical objects, ideas, work projects, or important relationships (e.g., with clients or providers). They can be tangible or intangible, but the important quality they all share is that they invoke feelings of ownership. Additionally, these behaviors refer to actions that facilitate maintaining or regaining control over objects (Brown et al., 2005). Whereas psychological ownership is a psychological state, territorial behavior represents a behavioral expression of this state, and may thus act to translate intense feelings of psychological ownership into other outcomes and behaviors.

Territorial behaviors transpire in different ways. Some behaviors involve the social construction of a boundary around an object. These boundaries may consist of individuals marking some object in the organization with symbols that reflect their identity. This can be a decoration of a desk or workspace, or a modification to some item (e.g. spray painting a set of tools to mark them as "your own") which signals to the others in that environment that the object is claimed. The purpose of this behavior is to strengthen one's identity and distinguish themselves from others as unique. Therefore, it is theorized to be stronger for individuals who

have a desire to express their uniqueness at work (Brown et al., 2005). Other behaviors are used not merely to signal that an item is identified with the individual, but also to mark the object in a way that signals the boundaries of the “territory” (Brown et al., 2005). These behaviors are likely to occur when people feel the need to clarify their ownership over an object, role, or idea.

People can also behave in ways that are more protective of territories. Protective actions can be anticipatory and occur prior to an infringement, not to express one’s identity or to stake a claim over an object, but in order to prevent an encroachment from occurring. Protective behaviors may be locking an office or desk drawer or hiring a secretary who also serves as a guard to the executive’s office and time (Brown et al., 2005). These behaviors manifest out of the desire to preemptively guard against possible infringement on objects that one perceives ownership over. These types of behaviors may be anticipatory or reactionary in nature (Brown & Robinson, 2011). Brown et al. (2005) posit that reactionary behaviors serve as a means of expressing anger for territory being infringed upon. Protective behaviors can be instrumental when they are used to restore the territory back to the actor. The goal of these behaviors is to guard or reclaim objects whose ownership has or may be threatened. While *claiming behaviors* are acts of signaling ownership to communicate to others that the possession belongs to the respective owner, *protecting behaviors* seek to thwart potential infringement or reclaim that which has been infringed.

Conceptually, territoriality is viewed as a dark side outcome of psychological ownership (Avey et al., 2008; Brown et al, 2005; Brown & Robinson, 2007). Theorizing suggests that territorial behaviors will increase interpersonal conflict, lower in-role performance, increase isolation (Brown et al, 2005), decrease knowledge sharing, stifle creativity, damage individual reputations, and cause psychological discomfort to those who are third party to territorial



behaviors (Brown & Robinson, 2007). Empirically, territoriality has been linked to knowledge hoarding (Peng, 2013; Huo, Cai, Luo, Men, & Jia, 2016), inhibiting others' creativity (Brown & Baer, 2015), being viewed as self-interested and not a team player (Brown, Crossley, & Robinson, 2014) and to decreased performance appraisals (Brown & Zhu, 2016). While feelings of ownership are related to behaving territorially, it is only one motivator for these behaviors.

While most theorizing and empirical work on territorial behaviors is focused on the dark side of these behaviors, there may also be benefits to the person who behaves territorially. Territorial behaviors may offset the discomfort of uncertainty. When people are unable to predict outcomes accurately, they feel psychological discomfort (Lind & van den Bos, 2001). Evolutionary perspectives and studies of territoriality in animals provides a different perspective on why territoriality comes about. Territorial behaviors as observed in non-human animals, such as birds guarding their nests, or dogs and cats marking their territory, are evolutionarily engrained behaviors that serve an important psychological or physical function of survival.

In animals we typically think of territoriality as physiological phenomena. Arguments that center on animals securing territories for their resources (food, isolation, reproduction) are compelling, but these behaviors are motivated psychologically as well. A herd of red deer were observed by Frank Darling (1937) to have observed strict boundaries of their territory. Darling began to bury corn within the deer's territory and the animals quickly uncovered and ate it. After several days of this activity he placed the corn just outside of their territory, across a small brook the animals could easily walk over. Even after two years, not one deer crossed the brook to get the corn. A resource-based perspective would suggest that the deer should cross the brook and eat the corn, but this did not happen. Rather, Darling (1939) suggests it is the uncertainty of what waited on the other side prevented them from taking the corn. Ardey (1966) suggests that animal

territoriality may offer a glimpse into what motivates humans. Is the dog that is barking at you from behind a fence motivated any differently from its owner's motivation when they first constructed the fence?

Territorial behaviors in humans also serve an important psychological function, namely, feelings of security. Altman (1975) describes territorial behaviors in humans in the context of privacy and security. He argues that territorial behaviors manifest when a new individual is introduced into a social group. For example, if a person is the only worker in an office with two desks they have no need to mark and claim an individual territory in that space; however, once a second person is assigned the other desk the first person will begin claiming and protecting their territory. They do this to feel security and to reduce psychological distress (Altman, 1975).

Organizational change is a common source for feelings of uncertainty in the workplace. When organizations make changes, they can potentially disrupt the relationships, status, workspaces, and roles of organizational members. If organizational members value their relationships, roles, or work projects, they may respond by "digging in." Claiming behaviors can provide relief from the psychological discomfort of uncertainty by giving the individual comfort in knowing that other people will respect and understand the boundaries around their relationships, workspaces, or role. Protecting behaviors can help people feel comfortable that they will be protected in the face of a possible infringement on or potential loss of things they feel are important to them.

Some recent research suggests that personalizing workspaces with both symbols of the self and of in-group identifiers increases positive feelings about the organization (Byron & Lawrence, 2015; Greenaway, Thai, Haslam, & Murphy, 2016). Based on these findings, territorial behaviors that allow a person to symbolize objects as an extension of his/her self

would also enhance positive feelings, while potentially mitigating the negative affect and hence reduce the negative effects of uncertainty. Smith and Stewart (2011) discuss how organizational symbolism, in the form of rituals, provide meaning for employees and help alleviate ambiguity. An evolutionary perspective coupled with research on psychological needs and motivations (e.g. Byron and Lawrence, 2015), suggest that territorial behaviors may be a response to uncertainty. Therefore, I hypothesize that when people experience uncertainty, they will be more likely to engage in territorial behaviors. Stated formally:

*Hypotheses 1: Perceptions of uncertainty will have a positive relationship with territorial behaviors.*

### **Anxiety as a Mechanism for Territorial Behaviors**

Anxiety is an affective state of anticipation response to uncertainty about the future (Grupe & Nitschke, 2013). When people feel that they are not able to handle or cope with potential uncertainties or threats they become anxious (Bandura, 1986). In this sense, uncertainty is anxiety provoking specifically because when people are uncertain, they are unable to predict and cope with the future. In organizations, a restructuring can be exciting or terrifying depending on the perceived skill level and value of individual workers. Someone who is an expert in their job will have little uncertainty that they will get through the reorganization successfully and retain their position. On the other hand, someone who perceives themselves as less skilled or valuable to the organization might ruminate on the possibility of losing their job. In the latter case, this person would feel anxious about the restructuring of the company. It is the perception of uncertainty that drives this feeling of anxiety.

Individuals seek to reduce psychological distress caused by uncertainty and desire predictability in their lives (Lind & van den Boss, 2001; Maas & van den Bos, 2011). Anxiety

resulting from the inability to predict future outcomes is a type of stress. One way that people cope with stress by physically or psychologically withdrawing from the source of their distress (Jensen, Patel, & Messersmith, 2013). Territorial behaviors are one form of withdrawal behaviors. Building and maintaining physical barriers to territories (e.g. fences, installing security systems, locks, and doors) can help one withdraw from stressful situations. Additionally, social mechanisms can also act as barriers to additional stresses, such as having a secretary guard access to a manager. Successful boundaries discourage social interaction among others and help people withdraw from stress.

Territorial behaviors may thus help individuals cope with anxiety by relieving uncertainty and providing comfort in knowing others are aware of your physical and social boundaries. They also provide a sense of relief in knowing that infringement is unlikely because of the protections put in place. This suggests that the psychological state of anxiety can translate conditions of uncertainty into territorial behaviors. Therefore, I propose that anxiety mediates the relationship between uncertainty and territoriality.

*Hypotheses 2: State-anxiety will mediate the positive relationship between perceptions of uncertainty and territorial behaviors.*

### **The Moderating Role of Perceived Fairness**

According to Lind and Van den Bos (2002) fairness should be closely related to uncertainty. Drawing on fairness heuristic theory (Lind, 2001), UMT argues that fairness perceptions have a valuable psychological function for people that helps them solve social or psychological dilemmas. UMT suggests that people have a need for predictability and that fairness perceptions help people make predictions about their outcomes in uncertain situations. In the face of uncertainty, positive fairness perceptions help reduce negative affect, increase

positive affect, enhance support for organizational policies and decisions, and increase performance aspirations (Lind & Van den Bos, 2002). In short, positive perceptions of fairness can give people assurance that their outcomes from an uncertain context will be positive and that they will be less likely to experience negative outcomes. Thus, fairness perceptions help to reduce the amount of anxiety over a possible loss of outcomes under conditions of uncertainty; while perceptions of unfairness can be anxiety provoking.

The central tenet of UMT is that when individuals are faced with uncertain conditions in their environment, they turn to their perceptions of fair or unfair treatment in the past to guide them on how to respond (Lind & Van den Bos, 2001). Fair treatment sends signals of positive regard for a person and their well-being. This can help reduce concerns of being taken advantage of by those with more power. Accordingly, fairness perceptions should also reduce the general feelings of anxiety, particularly around changes in organizational policies or structure. Thus, when individuals form a positive general fairness perception about their organization they will be more likely to accept organizational policies, have increased trust in the organization and their supervisors, and experience positive affect and reduced concerns about the context of uncertainty in this situation (Lind & Van den Bos, 2002).

Empirically, fairness effects are stronger under conditions of uncertainty (Desai, et al., 2011; Tangirala & Alge, 2006; Li, Bingham, & Umphress, 2007; Mass & van den Boss, 2011). Uncertainty increases anxiety and there is support for the notion that fairness perceptions help reduce uncertainty. The empirical results of research on UMT suggest that the relationship between uncertainty and territoriality should be stronger when fairness perceptions are lower. This same logic applies to the relationship between uncertainty and anxiety. Perceptions of unfairness would bolster feelings of anxiety in people who perceive uncertainty. Similarly,

unfairness would amplify feelings of anxiety and strengthen its relationship with territorial behaviors. Therefore, fairness should act as both a first and second stage moderator. Similarly, fairness perceptions should moderate the indirect relationship between uncertainty and territoriality. Stated formally:

*Hypothesis 3: The positive relationship between perceived uncertainty and territorial behaviors will be stronger when fairness perceptions are lower.*

*Hypothesis 4: The positive relationship between perceived uncertainty and state-anxiety will be stronger when fairness perceptions are lower.*

*Hypothesis 5: The positive indirect relationship between perceived uncertainty and territorial behaviors (via anxiety) will be stronger when fairness perceptions are lower*

## **METHOD**

### **Sample**

The data was collected from a large non-profit, caregiving organization in the southern United States. The sample is drawn from individuals at various hierarchical levels and functional divisions of the organization. Participants were approached via email and ranged from corporate executives, to fieldworkers in charge of children and family welfare services. Corporate office workers engage in various administrative tasks, ranging from human resource management, fund raising, information technology, finance, accounting, and legal counsel. Districts serve multiple purposes including managing residential facilities, client counseling, parenting and family training, and at home visitations with clients. As such, respondents represent a large variety of functional departments including information technology, accounting, finance, human resources, and care providers, as well as various supervisory levels (non-supervisors, managers, executives, etc.). This organization was undergoing a companywide restructuring process at the time of the study. Given the wide variety of roles in the organization this context should provide variance in the constructs measured. The data was in three waves with one-month separation between each wave. The total population of the organization was 1,888.

### **Procedure**

The survey was administered using Qualtrics during an annual employee survey at a non-profit organization in the Southeastern United States. Independent variables (uncertainty) and moderating variables (justice) were collected during the initial survey. Additionally, demographics and control variables (ownership feelings and trait negative affect) were collected at this time. Time 2 included state-anxiety and time 3 included territorial behaviors.

## **Measures**

### **Uncertainty perceptions**

Uncertainty was measured at time 1 using Rafferty & Griffin's (2006) general uncertainty scale. Respondents were asked to respond to four statements of uncertainty such as "My work environment is changing in an unpredictable manner," "I am often uncertain about how to respond to change," "I am often unsure about the effect of change on my work unit," and "I am often unsure how severely a change will affect my work unit." Uncertainty items were scored on a 7-point Likert style scale with 1 indicating "strongly disagree" and 7 indicating "strongly agree." A higher score on this scale indicates more uncertainty. Scale items and complete instructions are provided in Appendix B.

### **Justice Perceptions**

Justice perceptions was measured at time 1 using the overall justice scale developed by Ambrose and Schminke (2009). This measure was selected rather than measure all four dimensions of fairness to keep the time burden of the survey to a minimum. To capture fairness perceptions of the organization at the time of the survey, respondents were asked to answer the fairness questions thinking about how they were currently being treated by the organization. The 6-item scale included items "Overall, I'm treated fairly by my organization," "In general, the treatment I receive around here is fair," "Usually, the way things work in this organization are not fair (R)," "For the most part, this organization treats its employees fairly," and "Most of the people who work here would say they are often treated unfairly (R)." Fairness perception items were scored on a 7-point Likert style scale with 1 indicating "strongly disagree" and 7 indicating "strongly agree." Items marked with (R) were reverse scored meaning a higher score on this



scale indicates the organization was perceived as fair. Scale items and instructions are provided in Appendix B.

### **State Anxiety**

State anxiety was measured at time 2 using the short-form 6-item Spielberger State-Trait Anxiety Inventory (STAI) (Martean & Bekker, 1992). The STAI is considered a strong measure for state anxiety and the short-form reduces survey length from 20-items to 6-items. The short-form scale is used to minimize survey fatigue at the organization. To measure state rather than trait, respondents were instructed to answer this scale thinking about how they felt right at the time of the survey. Items used in the short-form scale were “I feel calm (R),” “I am tense,” “I feel upset,” “I am relaxed (R),” “I feel content (R),” and “I am worried.” State anxiety items were scored on a 7-point Likert style scale with 1 indicating “strongly disagree” and 7 indicating “strongly agree.” Items marked with (R) were reverse scored meaning a higher score on this scale indicates the respondent felt more state anxiety. Scale items and instructions are provided in Appendix B.

### **Territorial Behaviors**

Territorial behaviors were measured at time 3 using a self-developed scale. The items include “Mark something as mine” “Claim ownership of objects, spaces, or ideas” “Communicate that something belongs to you” “Claim things, spaces, or ideas” “Identify things as mine” “Guard your things, spaces, or ideas” “Secure your things, spaces, or ideas” “Protect things, spaces, or ideas” “Reclaim things, spaces, or ideas” and “Defend my things, spaces, or ideas.” Territorial behavior items were scored on a 7-point Likert style scale with 1 indicating “strongly disagree” and 7 indicating “strongly agree.” A higher score on this scale indicates the respondent was more

territorial. Scale items and instructions are included in Appendix B. For additional information on the item development process, please see Appendix C and Appendix D.

## **Controls**

### **Psychological Ownership**

Prior theorizing suggest that territorial behaviors are motivated by feelings of psychological ownership (Brown et al., 2005). To test that uncertainty and anxiety are antecedents separate from psychological ownership, I have included it as a control in the model. Psychological ownership was measured at time 1 using a 7-item van Dyne and Pierce (2004) scale. The items included on the survey were “This is MY organization,” “I sense that this organization is OUR company,” “I feel a very high degree of ownership for this organization,” “I sense that this is MY company,” “This is OUR company,” “Most of the people that work for this organization feel as though they own the company,” and “It is hard for me to think about this organization as MINE (R).” Psychological ownership items were scored on a 7-point Likert style scale with 1 indicating “strongly disagree” and 7 indicating “strongly agree.” Items marked with (R) were reverse scored meaning a higher score on this scale indicates the respondent felt more psychological ownership of their organization. Complete items and instructions are included in the Appendix B.

### **Object Ownership**

Brown, Crossley, and Robinson (2014) theorize that feelings of ownership over an object is what drives territorial behaviors. As the operationalization of psychological ownership is organizationally focused, a better method for testing ownership feelings in the context of territoriality might be object centered. To control for feelings of object ownership I included an 8-item scale developed by Brown et al., (2014). Included items are object centered where

respondents were asked to consider an object that they felt was theirs. Respondents were then asked to think of this object when answering the items. The object is included in the items where the black space is. The scale items are “I feel strong ties to my \_\_,” “This is my \_\_,” “I feel a very high degree of personal ownership for my \_\_,” “I sense that this is my \_\_,” “The \_\_ is an important part of my work,” “I worry that others will try to take my \_\_,” “I feel that my claim over the \_\_ is accepted,” and “I am willing to let others use \_\_ (R).” Object ownership items were scored on a 7-point Likert style scale with 1 indicating “strongly disagree” and 7 indicating “strongly agree.” Items marked with (R) were reverse scored meaning a higher score on this scale indicates the respondent felt more ownership of their stated object. Complete items and instructions are included in the Appendix B.

### **Negative Affect**

To make sure that state-anxiety is the process through which uncertainty impacts territorial behaviors, I measured trait negative affect as a control. This will be measured using the 10-item PANAS scale. Respondents were asked to rate how they generally feel about negative affect items, with some being reverse scored. Items marked with (R) were reverse scored meaning a higher score on this scale indicates the respondent has higher trait negative affect. Scale items and instructions are provided in Appendix B.

## DATA ANALYSIS

### Descriptive Statistics

Wave 1 had 1088 responses, wave 2 had 498 responses, and wave 3 had 155 responses. Inclusion in the final sample required each respondent to have completed all three waves of the survey, pass all attention checks, and to have filled out each question for all hypothesized and control variables. This process netted a final sample of 117 usable responses. Due to an error in Qualtrics, the survey page requesting responses for age, tenure, ethnicity, and gender did not display. To include these variables, human resource data furnished by the organization to the researcher was used and responses were added to the dataset. Due to high turnover in the organization, demographic data for the final sample was incomplete. The final sample did match the overall demographics of the population. The final sample was 53% Caucasian, 14% Black, and 13% Hispanic with the remainder unknown. The average age of respondents was 42 years old. The sample consists of 70% females and 10% males with the remaining unknown. The overall population is 86% female and 12% male, suggesting that the sample matches the gender distribution of the population. Similarly, ethnic and age distribution also was representative of the population. The means and standard deviations for hypothesized and control variables are shown in Table 1. Zero-order correlations and alphas are shown in Table 2.

### Measurement

The data were analyzed using a confirmatory factor analysis to confirm the measurement model. Using the PROC CALIS procedure in SAS 9.4, I analyzed the data as a four-factor model with no controls. The factors included in this model are uncertainty perceptions, fairness perceptions, state anxiety, and territorial behaviors. Results of the analysis indicate marginal model fit for the four-factor model with chi-square = 795.01, DF = 265, RMSEA = .21, CFI =

.82, SRMR = .07. The SRMR meet acceptable cutoff of less than .08 for model fit, while the CFI and RMSEA both do not meet the accepted cutoffs. A single factor model was analyzed and compared to the four-factor model. Results of the analysis indicate poor model fit for the four-factor model with chi-square = 2336.96, DF = 274, RMSEA = .93, CFI = .28, SRMR = .29. Several two and three factor models were analyzed, but none fit that data better than the four-factor model above. A chi-square difference test is significant, and the four-factor model represents the best fit of the data.

### **Hypotheses Tests**

Hypothesis 1 suggested that uncertainty would positively relate to territorial behaviors. I regressed general territoriality measured on uncertainty measured at time 1. Results indicated that the relationship between general uncertainty territorial behaviors was not significant ( $B = .0388, p = n.s.$ ). Thus, hypothesis 1 was not supported by the data.

Hypothesis 2 suggested that state-anxiety would mediate the positive relationship between uncertainty and territorial behaviors. Using the PROCESS Macro version 3.2.01 (Hayes, 2013) for SPSS, I analyzed the data using Model 4. Bootstrapping was done at 10,000 samples with a confidence interval of 95. I tested general uncertainty, with state-anxiety specified as a mediator and territorial behaviors as the dependent variable. This model shows the relationship between general uncertainty and state-anxiety was negative and not significant ( $B = -.24, p = n.s.$ ), and the relationship between state-anxiety and territorial behaviors was positive and not significant ( $B = .024, p = n.s.$ ). The direct effect of uncertainty and territorial behaviors is not significant ( $ab = .039, LLCI = -.2810, ULCI = .1012, p = .2124$ ). The indirect effect of the mediation hypothesis is not significant ( $LLCI = -.0536, ULCI = .0465$ ). The results do not support hypothesis 2.

Hypothesis 3 proposed that positive relationship between perceived uncertainty and territorial behaviors will be stronger when fairness perceptions are lower. This hypothesis was tested using PROCESS Macro Model 7. I tested the relationship between general uncertainty and territorial behaviors moderated by overall justice perceptions. This model shows that the moderation of overall fairness on the relationship between uncertainty and state-anxiety is positive and not significant ( $B = .0430$ ,  $p = n.s.$ ). There is no support for hypothesis 3 in the data. This model shows the relationship between general uncertainty and state-anxiety was negative and not significant ( $B = -.24$ ,  $p = n.s.$ ), and the relationship between state-anxiety and territorial behaviors was negative and not significant ( $B = -.0243$ ,  $p = n.s.$ ). The direct effect of uncertainty and territorial behaviors is not significant ( $ab = .039$ ,  $LLCI = -.2810$ ,  $ULCI = .1201$ ,  $p = .2124$ ). There is no support for hypothesis 4 in the data. The indirect effect of the mediation hypothesis is not significant ( $LLCI = -.1028$ ,  $ULCI = .2815$ ). There is no support for hypothesis 5 in the data.

## DISCUSSION

The purpose of this study is to expand the theoretical base from which organizational scholar's view territoriality by incorporating uncertainty management theory with literature with territorial behaviors. In doing so, this paper combines an evolutionary perspective of territoriality with the ownership-centric theory currently used in management. This evolutionary approach seeks to integrate uncertainty management theory into the nomological network of territorial behaviors. While the data does not confirm the hypotheses, the data does provide insights into future research on territoriality. Importantly, by drawing upon inter-disciplinary perspectives, researchers can explore new way in which territoriality benefits the territorial individual rather than focusing only on the impact territorial individuals have on others.

While the empirical results do not support the hypotheses, there are several reasons why this might be. First, the interaction between uncertainty and fairness is not significant. The relationship between uncertainty and fairness perceptions is well studied. That this relationship would not hold in this sample calls into question the accuracy of the data. I analyzed the data to determine if there were any problems with the operationalization of fairness and uncertainty. Overall fairness properly loads to a single factor in an EFA; however, when other items are added to the EFA the reverse coded items factor loading is below .50. These items were removed from the scale and the analyses were conducted again. The results for the hypotheses tests were not significant. I then tested for skewness in the data. Both uncertainty and overall fairness were skewed with z-scores above the acceptable range. I transformed the data by squaring the variables and conducted an analysis of the hypotheses. Even though the data was skewed, it did not impact outcome of the hypothesis tests. I tested for respondent inconsistency by checking the scores of reverse coded items in the overall fairness scale. In this case, checked the difference

between the items: “overall, I’m treated fairly by my organization” and “usually, the way things work in this organization are not fair.” I removed sixteen outliers that had difference scores that were three standard deviations from the mean. The removal of these outliers did not change the results of these analyses.

While prior studies have not examined the uncertainty/fairness connection in times of change, this precise context was integral to the original theoretical article (Lind & van den Bos, 2002). The organization was sampled during a major restructuring. It was thought that this would be a situation where there would be variance in variables of interest in this study. However, it is possible that individuals who were highly anxious or did not perceive the organization as fair might not have responded to the survey. Results of this study suggest an incomplete methodological approach or an issue with the sample.

The sample used for data collection is a multi-faceted organization. Roles in the survey range from executives, administrative staff, legal staff, and front facing employees. Prior to conducting the study, I visited the organization to collect observational and interview data with front-facing employees at the firm. During these sessions, concerns of uncertainty about future organizational change were salient. However, these concerns did not emerge in the data. Front-line employees skewed lower on uncertainty (mean 3.52) than management (mean 4.1) and the overall organization (mean 3.86). Organizational efforts to increase transparency and communication from senior management immediately prior to the study may have contributed to this outcome.

The breakdown of organizational titles and locations in the final sample indicate that the sample is skewed towards home office workers. Workers in the home office were privileged to more information about the organizational change. Workers who expressed more concerns about



the organization during field interviews were largely unrepresented in the sample. Front-facing workers accounted for only 6 usable responses despite making up a significant portion (55%) of the organization. These workers have little time outside of their normal duties, are already stretched thin, and complain of low trust in the organization. Many workers in the field only come to the office sparingly and do not have regular computer access. This could indicate selection bias on the part of individuals in the organization, given that there was strong response from the home office and low representation from field offices. The home office also had interacted with the research team over the course of 3 years prior to this data collection. These interactions helped the team build trust while interaction with regional and field offices was minimal. This may have also contributed to the strong response rate at the home office and lower rates at other offices.

In the theoretical development of this research, I posit that territoriality is strongly linked to anxiety. Territoriality has long been observed in non-human animals to reduce anxiety and combat fear of the unknown (Ardey, 1966; Darling, 1939). Further examination of the data reveals concerns about the priming statement in data collection. In the final survey for this research, respondents were asked to consider an object at work that they felt ownership over. They were asked to respond to territorial behaviors based on this object. Thirty-five individuals reported being territorial over their computer at work. An additional 20 selected their phone or their tablet. Some respondents selected toys or games as their object. Territoriality is a social behavior that does not become relevant unless there is potential for that territory to be infringed upon by another individual. In the organization sampled, every individual is issued a computer, laptop, or tablet for their job. The low threat of this territory being infringed upon might explain

why this data does not show a strong link between anxiety and territoriality. Future research should ask respondents if their selected objects are likely to be infringed upon.

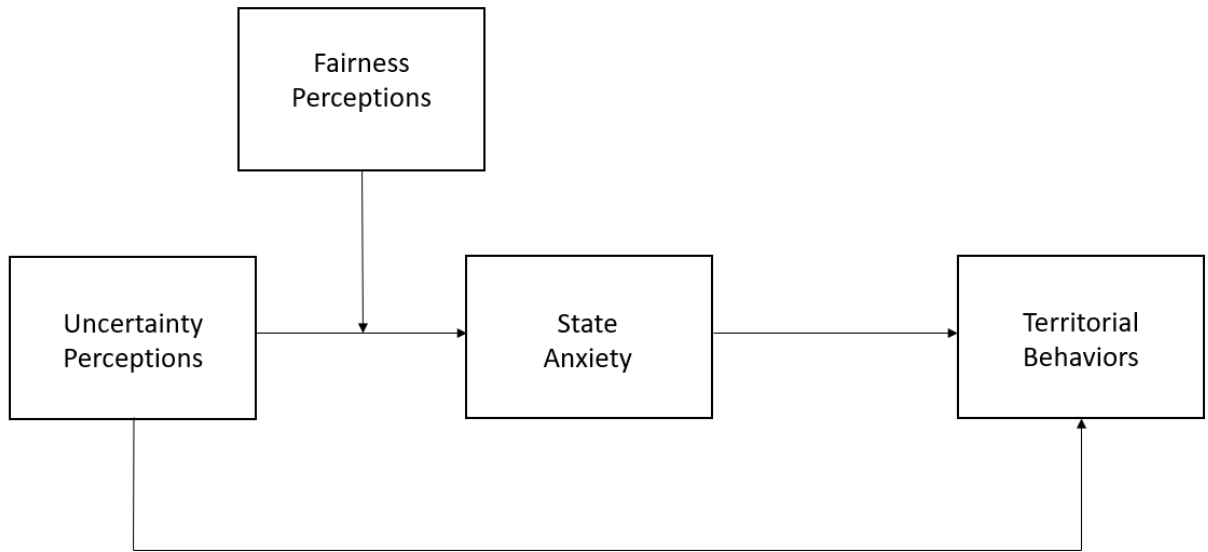
While developing the measure for this construct I had used a significantly long priming process that was not used in the final survey. The original item-development instrument had individuals list 10 objects that were important to their job that they felt ownership over. Then, they would rank order the importance of each object to their job. Lastly, they would write about how important the object is. This method provided excellent results in the item-development process and might be an integral part of how territoriality should be operationalized. Due to the length of this repeated measures survey and to avoid survey fatigue, the instructions for the claiming and protecting items were shortened. Without this priming process it is possible that respondents were not completely focused on specific and work-critical objects when completing claiming and protecting items. This could have impacted the quality of responses. Future research should consider adding the full priming process to territoriality scales to achieve a good object to have individuals respond to. In correspondence with other territorial researchers, it is reported that Brown, et al. (2014) used a similar priming method to the item-development process.

Humans have developed cognitive, behavioral, and emotional coping mechanisms beyond those of non-human animals. Human coping mechanisms are not always simple reactionary responses to uncertainty that we might observe in other species. Future research would benefit from small scale qualitative observations, interviews, and focus groups. In qualitative research more, rich data can be collected about an emerging phenomenon that could offer new insights into how evolutionary perspectives can be integrated into the field's current

understanding of territoriality. Qualitative studies can help untangle which areas of multi-disciplinary theoretical work are most salient in humans.

The social context in which territoriality occurs is theoretically important and could be very important in how researchers collect empirical data on this phenomenon. A deep understanding of the population being studied, their unique concerns and feelings of ownership, and the culture would help researchers better frame the survey or interview items about territoriality to capture the phenomenon better. While the results of this ambitious project are discouraging, there remains a wide blue ocean of studies that can emerge out of an evolutionary perspective of territoriality.

## **APPENDIX A: FIGURES**



**Figure 1: Theoretical Model**

## **APPENDIX B: SURVEY SCALE ITEMS**

## Measures

### **Uncertainty about management (Thau et al., 2009)**

Scale: 1-7 Likert style. Higher scores are more predictable, Surprising, Expected.

*Instructions: Please indicate how unpredictable/predictable, not surprising/Surprising, Unexpected/expected you find senior management's actions and decisions about the organization.*

1. I find senior management's actions and decisions about the organization (unpredictable/predictable).
2. I find senior management's actions and decisions about the organization (Not surprising/Surprising). (R)
3. I find senior management's actions and decisions about the organization (Unexpected/expected).

### **General uncertainty (Rafferty & Griffin, 2006)**

Scale: 1-7 Likert Style. Strongly disagree (1) – Strongly agree (7).

*Instructions: Please indicate how much you agree with the following statements.*

1. My work environment is changing in an unpredictable manner.
2. I am often uncertain about how to respond to change.
3. I am often unsure about the effect of change on my work unit.
4. I am often unsure how severely a change will affect my work unit.

### **Perceived fairness (Ambrose & Schminke, 2009)**

Scale: 1-7 Likert Style. Strongly disagree (1) – Strongly agree (7).

*Instructions: Please think about how you are currently being treated by your organization. Please indicate how much you agree with the following statements:*

1. Overall, I'm treated fairly by my organization.
2. In general, the treatment I receive around here is fair.
3. Usually, the way things work in this organization are not fair. (R)
4. For the most part, this organization treats its employees fairly.
5. Most of the people who work here would say they are often treated unfairly. (R)

### **State-Anxiety (Marteau & Bekker, 1992)**

Scale: 1-7 Likert Style. None at all (1) – A great deal (7).

*Instructions: A number of statements which people have used to describe themselves are given below. Read each statement and then select the most appropriate statement to indicate how you*

*fell RIGHT NOW, AT THIS MOMENT. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.*

1. I feel calm. (R)
2. I am tense.
3. I feel upset.
4. I am relaxed. (R)
5. I feel content. (R)
6. I am worried.

### **General Territoriality (item development Appendix C)**

Scale: 1-7 Likert Style. Strongly disagree (1) – Strongly agree (7).

*Instructions: Sometimes people feel the need to claim or protect "things" as their own. In the workplace, we all have "things" that are important to us and are important to helping us do our jobs. These things might be our work spaces, tangible or intangible objects, or ideas/projects. Thinking in general about "things" around you at work, how much you agree that you do you do the following behaviors?*

1. Mark something as mine
2. Claim ownership of objects, spaces, or ideas
3. Communicate that something belongs to you
4. Claim things, spaces, or ideas
5. Identify things as mine
6. Guard my things, spaces, or ideas
7. Protect things, spaces, or ideas
8. Reclaim things, spaces, or ideas
9. Defend my things, spaces, or ideas.

### **Territorial Behaviors Claiming/Protecting (item development Appendix D)**

Scale: 1-7 Likert Style. Strongly disagree (1) – Strongly agree (7).

*Instructions: Please think of all of the "objects" you have at work.*

*These could be physical objects like your computer, work spaces like your office or cubicle, projects that you are in charge of at work, your role on the job, ideas or knowledge you, contribute to your work, files or documents at work, relationships that you have built at work.*

*Think of all of the "objects" you have at work and choose one that is important to your job that you feel ownership over. Please describe the object in the box below by using a short name like "phone" for your office phone, "computer" for your office computer, or "my relationship with my boss" for your relationship with your boss.*



Think of this object as you answer the following questions:

### **Claiming**

1. Mark \_\_\_\_\_ as mine.
2. Claim ownership of \_\_\_\_\_
3. Communicate that \_\_\_\_\_ belongs to you
4. Claim \_\_\_\_\_
5. Identify \_\_\_\_\_ as mine

### **Protecting**

1. Guard my \_\_\_\_\_
2. Secure my \_\_\_\_\_
3. Protect my \_\_\_\_\_
4. Reclaim my \_\_\_\_\_
5. Defend my \_\_\_\_\_

### **Negative Affect**

Scale: 1-7 Likert Style. Not at all (1) – Extremely (7).

*Instructions: This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you GENERALLY feel this way, that is how you feel ON AVERAGE.*

1. Distressed (NA)
2. Upset (NA)
3. Guilty (NA)
4. Scared (NA)
5. Hostile (NA)
6. Irritable (NA)
7. Ashamed (NA)
8. Nervous (NA)
9. Jittery (NA)
10. Afraid (NA)

### **Psychological Ownership (van Dyne & Pierce, 2004)**

Scale: 1-7 Likert Style. Strongly disagree (1) – Strongly agree (7).

*Instructions: Think about the sense of ownership you feel for the organization that you work for. Indicate the degree to which you personally agree or disagree with the following statements.*

1. This is MY organization.
2. I sense that this organization is OUR company
3. I feel a very high degree of ownership for this organization.

4. I sense that this is MY company
5. This is OUR company
6. Most of the people that work for this organization feel as though they own the company
7. It is hard for me to think about this organization as MINE. (R)

**Object Ownership (Brown, Crossley, and Robinson, 2014)**

Scale: 1-7 Likert Style. Strongly disagree (1) – Strongly agree (7).

*Instructions: Think about the sense of ownership you feel for the organization that you work for. Indicate the degree to which you personally agree or disagree with the following statements.*

1. I feel strong ties to my \_\_
2. This is my \_\_
3. I feel a very high degree of personal ownership for my \_\_\_\_
4. I sense that this is my \_\_\_\_
5. The \_\_\_\_ is an important part of my work
6. I worry that others will try to take my \_\_
7. I feel that my claim over the \_\_ is accepted
8. I am willing to let others use \_\_ (R)

## **APPENDIX C: INSTRUMENT DEVELOPMENT GENERAL TERRITORIALITY**

## **General Territoriality**

According to Brown, et al. (p. 579, 2005), *territorial behavior* is defined as “actions or behaviors that often emanate from psychological ownership for the purposes constructing, communicating, maintaining, and restoring one’s attachment to an object.” Territorial behaviors can range from nameplates on doors, or family photos on desks, to resistance to the use of office cubicles and trying to prevent others from joining in on key work projects (Brown, et al., 2005). These behaviors demonstrate the territorial nature of organizations and highlight the common nature of territorial behavior in the workplace.

Territorial behaviors arise from feelings of psychological ownership over workplace objects. *Psychological ownership* is defined as the state of mind when one has feelings of ownership over something (Pierce, Kostove, & Dirks, 2001). Territoriality has been theorized as behaviors with the goal of protecting valuable assets and status. Territorial actions or behaviors stem from feelings of ownership and the desire to claim exclusive possession over an object. Objects, as used here, can refer to physical objects, ideas, work projects, or important relationships (e.g., with clients or providers). They can be tangible or intangible, but the important quality they all share is that they invoke feelings of ownership. Territorial behavior also includes actions or behaviors that let others know that an object is claimed. Additionally, it also refers to actions that facilitate maintaining control or regaining control over objects (Brown et al., 2005). Whereas psychological ownership is a psychological state, territorial behavior represents a behavioral expression of this state, and may thus act to mediate intense feelings of psychological ownership into other outcomes and behaviors.

Existing instruments for the measurement of territoriality are derived from Brown's (2007) scale on workspaces. This scale includes four facets of territoriality and is particularly focused on physical objects. As Brown et al. (2014) noted, there are 7 types of objects that emerged from their study on objects of territoriality. These are physical objects, spaces, work products/projects, roles/jobs, ideas/knowledge, files/documents, and relationships. A measurement instrument that is focused on physical objects and spaces is problematic when non-physical objects like knowledge, ideas, or relationships is the respondent's focal object. Thus, an instrument that captures the full spectrum of objects of territoriality is needed. The original instrument is also long, includes priming, and in the case of reactionary defending is conditional upon that specific object being infringed upon. As theorized above, territorial behaviors may not be motivated by feeling of ownership alone. To disentangle the construct from its antecedents, a new scale was developed. This scale asks about territoriality in general.

### **Item Generation**

I followed the method proposed by Hinkin (1995; 1998) in developing the instrument to measure general territoriality. Hinkin (1995) suggests that researchers examine the construct definitions they wish to measure and then develop items deductively from these definitions. I use Brown et al.'s (2005) definition of territoriality to deductively generate questions. Using these construct definitions, I developed 21 items to measure territorial behaviors.

### **Item Testing**

Consistent with Hinkin (1995; 1998) and Stanton, Sinar, Blazer, & Smith (2002) I conducted a bin sort exercise with 10 PhD students to gauge the face validity of the items generated. I chose .67 as the cutoff for interrater reliability, given that this construct is new and

relatively unknown (Krippendorf, 2013). All items scored above the acceptable cutoff for interrater reliability, which did not provide justification for item reduction at this stage.

To test the instrument, I conducted a survey with a population of 1429 students in an undergraduate management class at a large university in the Southeastern United States.

Individuals were contacted via e-mail and were offered the opportunity to participate in this data collection in exchange for extra credit in their course. The study received 654 responses. After reducing the sample for failed attention checks and incomplete surveys, the final usable sample was 539. The mean age of the study was 23 years old, 51% of the sample was male and 49% was female. The ethnic breakdown of the samples was 66% White, 8.5% Black, and 7 % Asian. All respondents reported working at least 20 hours per week with 19% working full time. All items the results of this study generated usable items, but they were still integrally connected to ownership as respondents were primed to respond to objects that they feel ownership over.

### **Item Generation Round 2**

A second round of 9 survey items were generated to remove the link to feelings of ownership. Data was collected at a medium sized non-profit organization in the Southeastern United States as part of a bi-annual employee satisfaction survey. The population of the organization is 1,900 employees. Respondents were randomized to receive the measurement testing survey or two other research surveys. Respondents were contacted by the research team via their work email that was provided by the organization. Additionally, the executive team sent out emails encouraging responses from employees. Of the population, 475 random employees were given the measure validation study. The final sample consists of 367 usable responses after checking for completeness and attention checks.

In this new design of the instrument, I included a prompt that asked respondents to think of one object that is important for their job that they felt ownership of from each of the 7 categories of objects noted in Brown et al. (2014). Respondents were asked to think in general about "things" around them at work and rate behaviors on a 7-point Likert style scale of agreement. The items generated were: "Mark something as mine," "Claim ownership of objects, spaces, or ideas," "Communicate that something belongs to you," "Claim things, spaces, or ideas," "Identify things as mine," "Guard my things, spaces, or ideas," "Protect things, spaces, or ideas," "Reclaim things, spaces, or ideas," "Defend things, spaces, or ideas."

Consistent with Hinkin (1995) I conducted an EFA on the items in the suggested measure. As items are expected to load onto one factor, I included items from the psychological ownership scale because they are a related but distinct construct. The scree plot and eigenvalues show that two factors emerged from the data. All items loaded properly onto the predicted constructs. Given the close relationship between the constructs some psychological ownership items cross loaded onto territoriality; however, all items in the generated scale loaded above .8 while no psychological ownership items surpassed .67. Stanton et al. (2002) recommends accounting for internal and external validity by examining item correlations to known constructs. I used prior territorial items developed by Brown and colleagues (2007;2014) to test for internal validity to which the general territorial behavior scale is correlated. For external validity, I used psychological ownership, a construct with prior empirical relationship with territoriality (Brown, Crossley, and Robinson, 2014). As expected, in the general territorial instrument, items are related to ownership at a lower rate than items in the facet measurement scale. Some relationship to ownership is still expected as humans may not be able to separate their territorial actions from all feelings of ownership.

## **Discussion**

Consistent with the development of the instrument, each item loaded properly on the proposed construct. Study results indicate the instrument can be used in an empirical study. The measure consists of 9-items for general territoriality. For items and factor loadings see Table 5.



## **APPENDIX D: INSTRUMENT DEVELOPMENT CLAIMING AND PROTECTING**

## **Territorial Behavior in Organizations**

Territoriality can be divided into two distinct meso-level facets: claiming and protecting. According to Brown et al. (2005), claiming involves the social construction of a territory or claim. Claiming behaviors can consist of individuals marking some object in the organization with symbols that reflect their identity. This can be a decoration of a desk or workspace, or a modification to some item (e.g. spray painting a set of tools to mark them as “your own”) which signals to the others in that environment that the object is claimed. The purpose of this behavior is to strengthen one’s identity and distinguish themselves from others as unique. Therefore, claiming is theorized to be stronger for individuals who have no other manner of expressing their uniqueness at work (Brown et al., 2005).

Claiming behaviors can also be used to mark the object in a way that signals the boundaries of the claimed “territory” and that signals to others exactly who has claimed ownership over the object (Brown et al., 2005). The purpose of this type of claiming is to control the access to the object of ownership and is triggered by uncertainty and ambiguity (Brown et al., 2005). Therefore, this behavior is likely to be manifested in individuals who are dealing with uncertain organizational climates and for those who are experiencing organizational change.

Since no definitions of claiming and defending exist at the meso-level, it was necessary to clarify the construct at this level. *Territorial claiming*, as defined here, consists of behaviors that are used to signal an object has been claimed by the respective person. This can be accomplished by expressing his/her identity through the object, or by directly expressing that an object is claimed and belongs to him/her. The goal of *territorial claiming* is to communicate the boundaries of the object that signal to others that someone has claimed ownership of it.

Territorial claiming behaviors are acts of claiming ownership in order to communicate to others that the possession belongs to the respective owner.

Territorial protecting is the other main category of territorial behaviors. *Territorial protecting* may be exhibited as behaviors that try to prevent others' claims on one's territory or as reactions to perceived infringements. Defensive actions can be anticipatory and occur prior to an infringement, not to express one's identity or to stake a claim over an object, but in order to prevent an encroachment from occurring. Territorial protecting may be to lock office or desk drawers, or to hire a secretary who also serves as a guard to the executive's office (Brown et al., 2005). These behaviors may be manifested out of the desire to preemptively guard against possible infringement on objects that one perceives ownership over.

Territorial protecting can also be reactionary in nature as a response to a perceived infringement (Brown & Robinson, 2011). It can also be conceived of as the reaction of an actor to another's use or attempted claiming of a territory that actors perceived as their own. Brown et al. (2005) posit that defenses such as these serve as a means of emotional expression for the infringed upon. Protecting behaviors are also instrumental as they are used to restore the territory back to the actor.

*Territorial protecting* consists of behaviors that function to protect objects and maintain or reassert ownership of objects that have previously been claimed. Defending can protect and deter others from attempting to infringe on one's possessions, or it can reflect actions related to restoring a possession to its owner. The goal of *territorial protecting* is to guard or reclaim objects whose ownership has or may be threatened. Territorial claiming behaviors are acts of claiming ownership in order to communicate to others that the possession belongs to the respective owner.

### **Item generation**

I followed the method proposed by Hinkin (1995; 1998) in developing the instrument to measure marking and defending. Hinkin (1995) suggests that researchers examine the construct definitions they wish to measure and then develop items deductively from these definitions. I defined *territorial claiming* as behaviors that are used to signal an object has been claimed by the respective person. This can be accomplished by expressing his/her identity through the object, or by directly expressing that an object is claimed and belongs to him/her. The goal of *territorial claiming* is to communicate the boundaries of the object that signal to others that someone has claimed ownership of it.

For the purposes of developing this measure, I defined *territorial protecting* as behaviors that function to protect objects and maintain or reassert ownership of objects that have previously been claimed. Protecting can protect and deter others from attempting to infringe on one's possessions, or it can reflect actions related to restoring a possession to its owner. The goal of *territorial protecting* is to guard or reclaim objects whose ownership has or may be threatened. Using these construct definitions, I developed 11 items to measure marking and 9 to measure defending.

### **Item Validation Study 1**

Consistent with Hinkin (1995; 1998) and Stanton, Sinar, Blazer, & Smith (2002) I conducted a bin sort exercise with 10 PhD students to gauge the face validity of the items generated. I chose .67 as the cutoff for interrater reliability, given that this construct is new and relatively unknown (Krippendorff, 2013). All items scored above the acceptable cutoff for interrater reliability, which did not provide justification to reduce items when checking for face validity.

I then conducted a survey using Amazon's mTurk. Respondents were recruited on mTurk and offered a payment of \$1 to "complete a survey about feelings of ownership at work." Respondents were informed to carefully read each question and that attention checks were being used. The total number of responses collected was 352. The final sample was 290 after removing incomplete surveys and responses that failed attention checks. Most responses were from individuals between the age of 25 and 34 (63%). The gender distribution was 65% male and 35% female. Caucasians were 62% of the sample, followed by 27% that were Asian, 5% Black, and 7% Native American. The sample was highly educated with 73% of respondents reporting a 4-year college degree or higher. All items the results of this study generated usable items, but they were still integrally connected to ownership as respondents were primed to respond to objects that they feel ownership over.

### **Item Validation Study 2**

A second study was conducted at a medium sized non-profit organization in the Southeastern United States as part of a bi-annual employee satisfaction survey. The population of the organization is 1,900 employees. Respondents were randomized to receive the measurement testing survey or two other research surveys. Respondents were contacted by the research team via their work email that was provided by the organization. Additionally, the executive team sent out emails encouraging responses from employees. Of the population, 404 random employees were given this measure validation study. The final sample consists of 344 usable responses after checking for completeness and attention checks.

In this new design of the instrument, I included a prompt that asked respondents to think of one object that is important for their job that they felt ownership of from each of the 7 categories of objects noted in Brown et al. (2014). Respondents were asked to think in general

about "things" around them at work and rate behaviors on a 7-point Likert style scale of agreement.

Consistent with Hinkin (1995) I conducted an EFA on the items in the suggested measure. Using all the items in the territorial claiming and territorial protecting scale an examination of the scree plot and eigenvalues show that two factors emerge in the data. All items loaded properly onto the predicted construct. All items met the cutoff point of .70. Stanton et al. (2002) recommends accounting for internal and external validity by examining item correlations to known constructs. The general territoriality items I used prior territorial items developed by Brown and colleagues (2007;2014) to test for internal validity to which these new scales are correlated. For external validity, I used object ownership, a construct with prior empirical relationship with territoriality (Brown, Crossley, and Robinson, 2014). Both facets correlate with object ownership.

### **Discussion**

Consistent with the development of the instrument, each item loaded properly on the proposed construct. Additionally, expert judges responded to the bin sort exercise consistently providing strong interrater reliability across items. Lastly, items were culled using their relationships with a third variable. The measure at this time was reduced to 5-items for each construct. See Table 6 for factor loadings and Table 7 for external validity and rater agreement.

**APPENDIX E: IRB APPROVAL LETTER**

# IRB APPROVAL LETTER



University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

## Approval of Exempt Human Research

From: UCF Institutional Review Board #1  
FWA00000351, IRB00001138

To: Christopher Michael Stein and Co-PI: Craig D. Crossley

Date: February 16, 2016

Dear Researcher:

On 02/16/2016, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	Feelings of ownership, belonging, and work motivation
Investigator:	Christopher Michael Stein
IRB Number:	SBE-16-12007
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewska, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink that reads "Joanne Muratori".

Signature applied by Joanne Muratori on 02/16/2016 10:02:05 AM EST

IRB Manager



**Table 1: Descriptive Statistics**

Construct	N	Mean	Std. Deviation
Overall Fairness	117	5.21	1.36
Uncertainty	117	3.88	1.59
Anxiety	117	2.89	1.24
Territorial Behaviors	117	3.88	1.57
Claiming	117	4.75	1.76
Protecting	117	4.88	1.52
Psychological Ownership	117	4.23	1.48
Object Ownership	117	4.11	1.86
Negative Affect	117	1.98	0.79
Tenure (in years)	85	4.24	4.34
Age (in years)	104	42.50	13.06
Ethnicity	103	1.50	0.77
Gender	104	1.86	0.35

**Table 2: Correlation Matrix**

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Overall Fairness	.925											
2 Uncertainty	-.598**	.738										
3 Anxiety	-.450**	.358**	.876									
4 Territorial Behaviors	-.109	-.107	.021	.964								
5 Claiming	-.098	.088	.134	.665**	.928							
6 Protecting	-.032	.006	.188*	.550**	.624**	.931						
7 Psychological Ownership	.428**	-.295**	-.181	.243**	.204*	.342**	.926					
8 Object Ownership	.325**	-.202*	-.041	.240**	.269**	.273**	.744**	.979				
9 Negative Affect	-.535**	.506**	.455**	.013	.105	.016	-.326**	-.220*	.861			
10 Tenure (years)	-.121	.121	-.101	.208	.202	.099	.270*	.215*	.065			
11 Age (years)	.088	-.011	-.117	-.031	-.112	.031	.198*	.078	-.204*	.235*		
12 Ethnicity	.043	-.017	.003	.095	-.039	.168	.015	.003	-.051	-.129	-.100	
13 Gender	-.011	-.001	.147	.099	.179	.041	.066	.011	.091	-.042	-.019	.052

Note: N =117. Coefficient alpha is along the diagonal. There are no alphas for demographics.

\*\* p <.01. \* p < .05

**Table 3: Path Analysis Results**

	Anxiety <sup>2</sup>	Stress <sup>2</sup>	Control Marking <sup>3</sup>	Anticipatory Defense <sup>3</sup>	Reactionary Defense <sup>3</sup>
<i>Control Variables</i>					
Object Ownership	.1476*	.0933	.2076*	.0828	-.0502
Psychological Ownership	-.109	-.1018*	-.0178	-.0517	.1077
<i>Path a</i>					
Uncertainty in Management	.2462	-.1889	-.0060	.0859	-.0227
General Uncertainty	-.1304	-.0716	-.0088	.1114	-.0202
Organizational Fairness x Uncertainty in Management	-.2462	.0373			
Organizational Fairness x General Uncertainty	.0430	.0382			
Procedural Justice x Uncertainty in Management	-.0269	.0723			
Procedural Justice x General Uncertainty					
<i>Path b</i>					
Anxiety			.1656	.0768	-.0425
Stress			.0848	-.1637	.2560**
Claiming					
Protecting					
Control-Oriented Marking				.1957***	.1740***
Anticipatory Defense			.3204***		.3684***
Reactionary Defense			.3554***	.4598***	
R <sup>2</sup>	.2323	.1230	.3388	.3581	.3772
F	6.7158	3.1142	7.9783	8.6886	9.4292

PROCESS Macro reports unstandardized *B*

\* p < .10, \*\* p < .05, \*\*\* p < .01

<sup>1</sup> Wave 1, <sup>2</sup> Wave 2, <sup>3</sup> Wave 3

**Table 4: Conditional Direct and Indirect Effects**

Conditional direct effects	<i>ab</i>	<i>SE</i>	LLCI 95%	ULCI 95%
Uncertainty in Management on Territorial Behaviors	.0388	.1148	-.2663	.1886
Uncertainty in Management on Claiming	.0987	.1011	-.1016	0.299
Uncertainty in Management on Protecting	-.0948	.0836	-.2605	.0708
Uncertainty in Management on Control-Oriented Marking	-.0060	.1065	-.2170	.2051
Uncertainty in Management on Anticipatory Defending	.0859	.0828	-.0783	.2501
Uncertainty in Management on Reactionary Defending	-.0227	.0745	-.1703	.1249
General Uncertainty on Territorial Behaviors	-.0805	.1012	-.2810	.1201
General Uncertainty on Claiming	.0943	.0891	-.0822	.2709
General Uncertainty on Protecting	-.0377	.0745	-.1853	.1099
General Uncertainty on Control-Oriented Marking	-.0088	.0948	-.1966	.1790
General Uncertainty on Anticipatory Defending	.1117	.0729	-.0330	.2559
General Uncertainty on Reactionary Defending	-.0202	.0663	-.1516	.1111
<hr/>				
Conditional indirect effects	<i>ab</i>	<i>SE</i>	LLCI 95%	ULCI 95%
Uncertainty in Management on Territorial Behaviors	.0021	.0235	-.0536	.0465

**Table 5: Exploratory Factor Analysis General Territorial Behavior Item Development**

Survey Items	General Territoriality	Psychological Ownership
<b>Mark something as mine</b>	<b>0.824</b>	-0.252
<b>Claim ownership of objects, spaces, or ideas</b>	<b>0.851</b>	-0.262
<b>Communicate that something belongs to you</b>	<b>0.845</b>	-0.271
<b>Claim things, spaces, or ideas</b>	<b>0.848</b>	-0.212
<b>Identify things as mine</b>	<b>0.797</b>	-0.265
<b>Guard your things, spaces, or ideas</b>	<b>0.83</b>	-0.215
<b>Secure your things, spaces, or ideas</b>	<b>0.748</b>	-0.224
<b>Protect things, spaces, or ideas</b>	<b>0.798</b>	-0.261
<b>Reclaim things, spaces, or ideas</b>	<b>0.792</b>	-0.265
<b>Defend my things, spaces, or ideas</b>	<b>0.808</b>	-0.251
This is MY organization	0.667	0.571
I sense that this organization is OUR company	0.536	0.543
I feel a very high degree of ownership for this organization	0.649	0.612
I sense that this is MY company	0.7	0.547
This is OUR company	0.515	0.517
Most of the people that work for this organization feel as though they own the company	0.626	0.537

Extraction Method: Maximum Likelihood. Direct Oblim. rotation. Items in bold are the general territorial behavior scale.

**Table 6 Exploratory Factor Analysis Direct Oblimin Rotation: Appendix D**

Claiming Survey Items	Marking	Defending
<b>Establish the __ as mine</b>	<b>0.907</b>	-0.029
<b>Assert ownership of the __</b>	<b>0.855</b>	-0.025
<b>Identify the __ as mine</b>	<b>0.846</b>	-0.024
<b>Characterize the __ as mine</b>	<b>0.841</b>	-0.001
Communicate that the __ belonged to me	0.808	-0.013
<b>Claim the __</b>	<b>0.784</b>	0.007
Claim ownership of the __	0.774	0.017
Mark the __ as mine	0.759	0.018
Assert ownership of the __ before others can	0.684	0.033
Mark the __	0.648	0.127
Show that the __ is an extension of me	0.444	0.065
<hr/>		
Protecting Survey Items	Marking	Defending
<b>Guard my __</b>	-0.003	<b>0.805</b>
<b>Defend my __ from being taken or used</b>	-0.092	<b>0.804</b>
<b>Defend my __</b>	-0.046	<b>0.769</b>
<b>Protect my __</b>	0.011	<b>0.764</b>
Secure my __	-0.049	0.751
Protect my __ from others	0.075	0.748
<b>Reclaim my __</b>	0.218	<b>0.725</b>
Reclaim ownership of my __ when threatened	0.331	0.693
Take back my __ should anyone take/use it	0.314	0.669

Final survey items are in bold.

**Table 7 External Validity and Rater Agreement: Appendix D**

Territorial Claiming	Rater	
	Ownership	Agreement
Establish the ___ as mine	<b>0.907</b>	1.00
Assert ownership of the ___	<b>0.855</b>	0.74
Identify the ___ as mine	<b>0.846</b>	1.00
Characterize the ___ as mine	<b>0.841</b>	1.00
Claim the ___	<b>0.784</b>	1.00

Territorial Protecting	Rater	
	Ownership	Agreement
Guard my ___	<b>0.805</b>	0.85
Defend my ___ from being taken or used	<b>0.804</b>	1.00
Defend my ___	<b>0.769</b>	1.00
Protect my ___	<b>0.764</b>	1.00
Reclaim my ___	<b>0.725</b>	1.00

Items correlations are shown for ownership. Krippendorff's alpha is shown for rater agreement.

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