

CONTEXT MATTERS: UNCOVERING FACTORS INFLUENCING CHARGES OF
RELIGIOUS WORKPLACE DISCRIMINATION

by

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Discrimination

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DEDICATION

This dissertation is dedicated to my parents (Ahsan and Nargis Saeed), husband (Ghufran Ahmad), children (Rehan and Aleema Ahmad), and the rest of my family and friends for their continuous support, prayers, and love throughout this academic journey.

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TABLE OF CONTENTS

	Page
List of Tables	vi
Abstract	vii
Context Matters: Uncovering Factors Influencing Charges of Religious Workplace Discrimination.....	1
Socioecological Psychology and Discrimination	3
Socioecological Psychology and Religious Discrimination.....	5
Religious discrimination charges.....	6
Physical environment.	7
Interpersonal environment.....	8
Economic environment.....	13
Religious diversity and unemployment.	15
Political environment.....	17
METHOD.....	19
Sample	19
Measures	20
RESULTS.....	30
DISCUSSION	38
Theoretical Implications	42
Practical Implications	44
Limitations and Future Research	45
CONCLUSION	48
Appendix A.....	52
Appendix B	54
Appendix C.....	57
References.....	58

LIST OF TABLES

	Page
Table	
Table 1 Descriptive Statistics and Correlations for Raw Variables.....	49
Table 2 Multivariate Multiple Regression Analyses Using Difference-in-Differences Estimates to Predict Religious Discrimination Charges	51

ABSTRACT

CONTEXT MATTERS: UNCOVERING FACTORS INFLUENCING CHARGES OF RELIGIOUS WORKPLACE DISCRIMINATION

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Reports of religious discrimination in the workplace have increased significantly and the rate of this charge increase is greater than that of any other protected group (EEOC, 2015). Organizational scholars have focused on proximal factors and minimized the effects of more distal, contextual factors in understanding this workplace experience. By integrating sociology and psychology perspectives using a socioecological psychology framework, I examine how physical, interpersonal, economic and political environments within a particular county influence religious discrimination charges over a 24 year time period. Results indicate that the tragic event of September 11th, as well as increases in temperature, religious diversity and unemployment rates in a county relate to an increase in religious discrimination charges. This approach broadens consideration of the drivers of discrimination beyond individual and organizational factors, suggesting that intergroup dynamics are also influenced by the environment in which organizations are embedded.

Additionally, this study incorporates the notion that communities change and as a result, individual workplace experiences change as well.

CONTEXT MATTERS: UNCOVERING FACTORS INFLUENCING CHARGES OF RELIGIOUS WORKPLACE DISCRIMINATION

According to statistics by the Equal Employment Opportunity Commission (EEOC), religious workplace discrimination charges in the United States of America have increased by 157% in the period between 1993 and 2013 (EEOC, 2013). These statistics reflect unique challenges for organizations and religious minorities. The negative consequences associated with discriminatory experiences have fueled organizational scholars to understand predictors of discrimination. However, previous research has focused on the psychological, group and organizational bases of discrimination (Dipboye & Colella, 2013). More specifically, researchers have focused on individual cognitive and affective factors (Dovidio & Hebl, 2005), group-level explanations (Thomas & Chrobot-Mason, 2013), and used organizational-level systems perspective (Gelfand, Nishii, Raver, & Schneider, 2005), while broader contexts are rarely considered.

Employees do not experience life within the boundaries of the workplace. Instead, their thoughts, feelings, and behaviors are shaped directly and indirectly by dominant social norms and environmental cues, which are brought into the work environment. Although scholars outside of organizational science have found evidence for objective environments impacting how people think, feel, and behave (Oishi & Graham, 2010), organizational scholarship has made little advancement in directly linking these two areas

of research. This may be true in the case of intergroup relations and may be particularly relevant for a vulnerable working population facing increasing discrimination, religious employees. Previous scholars specify the need to consider societal level predictors to better understand experiences of religious workers (Chan-Serafin, Brief, & George, 2013; Ghumman & Ryan, 2015). Chan-Serafin and colleagues argue that researchers need to rigorously address the potential consequences of religion in the workplace that acknowledges both the benefits and challenges and highlights “the critical role that wider context plays in understanding these tensions” (p. 1585).

In the current research, a socioecological psychology framework (Oishi & Graham, 2010) is used to argue that changes in the objective environment in which employees live influence relative rates of change in workplace religious discrimination charges over time. This advances diversity scholarship both theoretically and methodologically. First, this paper recognizes the spillover effects of societal factors at the macro level and the implications for shaping experiences at the micro level. Specifically, social ecologies, defined as physical, interpersonal, economic and political environments, influence the processes of stereotyping, prejudice and discrimination. This approach broadens the drivers of discrimination beyond individual and organizational predictors and proposes that the processes used to explain intergroup dynamics (i.e., stereotypes, prejudice, and discrimination) are influenced by broader contextual factors. Although previous research had indicated that there are regional differences in prejudicial attitudes (Middleton, 1976; Quillian, 1996), which may result in greater discrimination in general, organizational scholarship has yet to bridge what happens outside of the

organization to workplace experiences. Intergroup dynamics and relationships outside of the organization are expected to have similar effects and spill-over into the organization as well.

Second, this research considers change over time which incorporates the notion that ecologies shift and so do individuals' experiences. The opportunity for a study to include a longitudinal approach to examine changes in the environment and its influence on individual discrimination experiences provides- insight into the patterns of discrimination that are situated within specific times, locations and contexts. Finally, the current study also examines how different contextual factors interact with one another. Factors in the environment do not occur in isolation and looking at their interactive effects can provide richer knowledge of their effects. Ultimately, this framing generates knowledge about indicators that may play a role in fostering inclusion and equality in the workplace and can be used as a guide for future research. Next, I describe the framework the current study is drawing from-- socioecological psychology--and how this lens is relevant in understanding religious workplace discrimination.

Socioecological Psychology and Discrimination

The socioecological psychology approach aims to bridge psychology and sociology perspectives and investigate how mind and behavior are shaped in part by their natural and social habitats and how these habitats are in turn shaped partly by mind and behavior (Oishi & Graham, 2010). More specifically, socioecological psychology aims to identify how humans respond and/or influence physical, interpersonal, economic and

political environments (Oishi, 2014). The *physical environment* is comprised of objective surroundings such as climate, weather, landscapes, buildings, roads and green spaces. *Interpersonal environments* are factors that affect human relations, which can include population density, residential mobility, demographic diversity, and sex ratio to name a few. *Economic environments* relate to the financial conditions (e.g., unemployment, income inequity) of an area. Finally, *political environments* reflect the political climate (e.g., endorsement of conservative or liberal ideologies) or the stability of an authority body in which one resides that may influence an individual's cognition, emotion and behavior.

These environments shape people's thoughts, emotions and behaviors toward others. Specifically, I theorize that the different ecologies (physical, interpersonal, economic, and political) can influence the processes of stereotype, prejudice and discrimination. A basic premise guiding diversity research is that individuals classify themselves and those they encounter on identifiable characteristics (*social identity theory*; Tajfel & Turner, 1985). This categorization process can lead to a number of assumptions about and reactions to members of particular groups in the form of stereotypes, prejudice and discrimination (Fiske & Neuberg, 1990), which I argue are influenced by these objective social ecologies. *Stereotyping* entails applying one's cognitive expectancies and associations about the group (Fiske, 2010), which can serve to justify or rationalize affective and behavioral reactions to the category (Jost & Major, 2001). *Prejudice* involves an emotional reaction on the basis of one's feeling (positive or negative) about the group as a whole (Fiske, 2010). Finally, *discrimination* focuses on the behavioral

component of this tripod and encompasses acting on one's stereotypes and prejudices (Fiske, 2010). This focus of the current study is on how these different environments directly impact discriminatory behaviors toward individuals of various religious backgrounds in the workplace.

Socioecological Psychology and Religious Discrimination

In a secular American work environment, religion is generally considered a taboo topic. Nevertheless, a Gallup poll (2006) indicates that 80% of Americans say that religion is an important aspect of their lives and many employees express interest to incorporate their religious self with their work identity (Gibson, 2005). According to a survey by the Pew Research Center (2014), in the United States, Christian denominations make up the largest proportion of individuals (70.6%), followed by Unaffiliated groups (22.8%; Atheists, Agnostics, Nothing in particular), Jews (1.9%), Muslims (0.9%), Buddhist (0.7%), Hindu (0.7%), and other faiths (1.8%). The focus of the current research is on comparing religious discrimination charges for these different faiths including majority group members (e.g., Christians) and minority groups (e.g., Jews, Muslims, and Other religious groups).

A recent statistical analysis of religious discrimination workplace complaints through the EEOC examined charges between 1992 and 2012 and found that a greater number of charges were filed in the southern region, compared to any other region in the United States (Goodwin, Chehall & Billbrey, 2013). Given the study's findings, geographical context likely plays a role in the treatment of religious employees. However, this study falls short of including specific predictors that may account for these

differences. Using the socioecological psychology framework, the next section focuses on the outcome of interest, religious discrimination charges, and describes how the physical, interpersonal, economic and political environments may influence these claims.

Religious discrimination charges.

Religious discrimination involves treating an applicant or employee unfavorably because of his/her religious beliefs. People belonging to traditional, organized religion are protected in addition to others who have sincerely held religious, ethical or moral beliefs. Religious discrimination can occur in the form of disparate treatment, harassment, segregation, failure to reasonably accommodate religious practices, dress, grooming, and retaliation against prospective or current employees for alleging religious discrimination (EEOC, 2015). Legally, an employer does not have to accommodate an employee's religious beliefs or practices if doing so would cause undue hardship (e.g., costly, compromises workplace safety, infringes on the rights of other employees). If an employee believes that they were legally discriminated against, they can file a Religious Discrimination Charge with the U.S. EEOC. The time limit to file a charge of discrimination is in general 180 calendar days from the day the discrimination took place. This time frame is extended to 300 days if there is a state or local agency enforces a law that prohibits employment discrimination on the same basis.

Religious discrimination charges are the focal outcomes of interest in the current study. Community factors influence on religious discrimination charges are examined using a one year time lag. Previous scholars have theorized regarding temporal relationships and articulated the considerations regarding the time when X and Y are

measured and its importance for determining if X causes Y (Mitchell & James, 2001).

Using a one year lag is an optimal time to examine community changes, especially given the time limit for filing a discrimination charge.

Physical environment.

A physical factor that may be relevant to workplace religious discrimination experiences is temperature. According to the *heat hypothesis*, hot temperatures increase aggressive motivation and (under some conditions) aggressive behavior (Anderson, 2001). Indeed, several past studies have found a relationship between heat and aggression (Carlsmith & Anderson, 1979; Anderson & Anderson, 1984; Anderson et al., 1997; Rotton & Cohn, 2004). Violent-crime rates are higher in U.S. cities with higher average temperatures compared to cities with lower average temperatures, even when controlling for population size and median income (Anderson et al., 2000). Similarly, when examining differences within the same city, researchers have found that violent-crime rates are higher in months with higher average temperatures (Bushman et al. 2005; Cohn & Rotton 1997).

The relationship between heat and aggression in the community can spillover to the work environment and impact how workers behave towards each other. Lab studies have found that heat has a causal effect on aggressive behavior (Griffit & Veitch, 1971). Specifically, researchers compared students taking a test in normal room temperature with a hot room temperature and found that students reported feeling more aggressive and expressed more hostility toward a stranger when in a hotter environment (Griffit & Veitch, 1971). The reason for the heat and aggression relationship is due to the fact that

heat induces physiological and psychological changes. Specifically, hot weather increases heart rate, blood circulation, sweating, levels of testosterone production and is related to metabolic changes, which are linked to the fight-or-flight response (Anderson, 2012). These physical responses have been found to be related to feelings of hostility and anger (Anderson, 2001).

The physiological and psychological changes caused by heat outside of the organization are not left at the door when entering the workplace. Emotions evoked by heat (i.e., hostility and anger) can influence attitudes toward outgroup members. Specifically, researchers argue that stereotypes, prejudices and the expression of them are influenced by perceivers' emotional states (DeSteno & Dasgupta, 2004). Two experimental studies found that an induced feeling of anger created automatic prejudice toward outgroups, whereas feelings of sadness and neutrality did not (DeSteno & Dasgupta, 2004). Consequently, I argue that particular emotions, such as anger and hostility, which can be induced by higher temperatures, conjure a psychological response to treat outgroup members negatively, especially those that may belong to minority religious groups. Therefore, I expect that,

Hypothesis 1: An increase in average temperatures between $t-1$ and t will predict a relative rate of increase in religious workplace discrimination charges at time t relative to time $t-1$. This effect will be stronger for minority religious groups (e.g., Jews, Muslims and Other religious groups) compared to the majority religious group (e.g., Christians).

Interpersonal environment.

Two interpersonal factors that are particularly relevant to understanding religious discrimination in the workplace include (1) the tragic event of September 11th and (2) the religious diversity of an area. These two indicators were chosen because 9/11 marked a historical event that drastically changed inter-religious relations in the United States, especially for Muslims. In addition, community demographics have been evolving and it is important to consider how these composition changes play a role in intergroup relations.

Pre-Post 9/11. On September 11th, 2001, three commercial airlines were hijacked and used as weapons of mass destruction. The United States of America went to war on many fronts, including military action abroad as well as heightened security and investigation at home. The terrorists who committed the violence claimed to perpetrate the attack in the name of religion, Islam. This event served to heighten the saliency of religion. Indeed, media coverage regarding religion, particularly the Islamic faith, increased drastically (Nacos & Torres-Reyna, 2003). Those who had not heard about or met a Muslim before were now being exposed to people of this faith through the lens of this horrendous event.

Consequently, in the aftermath of the tragedy, Muslims faced crude forms of profiling. Cognitions, emotions and behaviors toward Muslims became more negative. Indeed, survey research indicates Muslims were tied with atheists at the top of a list of groups that Americans found most problematic (Edgell, Hartmann, & Gerteis, 2006). Rowatt, Franklin and Cotton (2005) examined implicit and explicit attitudes toward Christians and Muslims within a sample in the United States and found participants self-reported explicit attitudes toward Christians were more positive than their self-reported

attitudes toward Muslims and participants had an implicit preference for Christians as well.

Additionally, these attitudes turned into behavioral responses as well as subtle discrimination was perceived to have risen by 82.6% and overt discrimination rose by 76.3% since September 11th (Sheridan, 2006). An empirical field study found higher levels of interpersonal discrimination toward applicants wearing traditional Muslim attire (King & Ahmad, 2010). The EEOC, state and local fair employment practice agencies documented a 250% increase in number of charges alleging formal workplace discrimination based on religious and or/national origin (e.g., individuals perceived to be Muslim, Arab, South Asian, Sikh; EEOC, 2002) in the months after 9/11. Consequently, I hypothesize that,

Hypothesis 2: Religious workplace discrimination charges will be higher following the tragic event of September 11th than prior to this time period. However, this effect will be greatest for Muslims compared to any other religious groups (e.g., Christians, Jews, Other religious groups).

Religious diversity. The diversity of religious practices in the U.S. has increased in the last 25 years as immigration has increased (Kelley, 2008). Research in the area of community demography has often focused on racial composition and is guided by the *realistic group conflict theory (RCT)*, which specifies that threats to in-group advantage result in negative intergroup reactions (Campbell, 1965). Indeed, several different studies have found an increase in White racial antagonism as black populations increase in counties and metropolitan areas (Fossett and Kiecolt 1989; Giles 1977; Giles and

Buckner 1993; Glaser, 1994; Quillian 1996; Taylor 1998; Wright 1977). One way this negative intergroup behavior was demonstrated was percentage of blacks in a county was found to be positively associated with white support for a politician campaigning who was involved with a racial hate group (i.e., the Klu Klux Klan; Giles and Buckner 1993). These findings were attributed to the fact that Whites perceived that Blacks threatened social order (Sidanius et al., 1994, 1996). More recently, Brief and colleagues (2005) made predictions based on realistic group conflict theory that negative white reactions to racial and ethnic diversity inside organizations would be moderated by the relationship of white diversity experiences in the community. They found that indeed, the closer that whites lived to blacks, the more interethnic conflict was perceived in the community, which resulted in negatively responding to diverse workplaces.

In blending the community and organizational implications of realistic group conflict theory, I argue that the effects of religious diversity in the community spillover to ways religious groups are treated in the work environment. As outgroup members increase, the perceptions of group threat rooted in the idea that one group's gain is another's loss causes prejudice, negative stereotyping and discriminatory behaviors toward these outgroup members (Sidanius & Pratto, 1999). Drawing from the *Stereotype Content Model* (SCM), stereotypes serve a functional purpose derived from the need to understand intergroup interactions and are based on primarily two dimensions: competence and warmth (Fiske et al., 2002). According to the SCM, Jews and Muslims are perceived to be high in competence and low in interpersonal factors (e.g., warmth; Cuddy, Fiske, & Glick, 2008; Fisk et al., 2002). Although these religious groups may be

respected due to their perceived competence, they elicit emotions of dislike for their perceived lack of warmth. Indeed, research suggests that anti-Semitic notions of Jewish economic conspiracy exaggerate Jews' feared competence and engenders views of them as self-serving, greedy, disloyal, and power hungry (Wuthnow, 1982), which relate to their portrayal as low in warmth. Stereotypes of Muslims are characterized by lower levels of warmth are evident as adjectives of this group include, "terrorists, aggressive, belligerent, intolerant, fanatical, fundamentalists, being oppressive towards women, evil and barbaric" (Asani, 2003; Kamalipour, 2000; Pipes, 1990). These negative stereotypes are likely to fuel negative treatment of these minority religious groups as majority group members feel threatened by an increase in their population in their communities.

These threat based reactions can be manifested in the work context. An experimental study found that the largest group in the South, evangelical Christians, experienced relatively low rates of hiring discrimination whereas Muslims and Pagans experienced higher levels of hiring discrimination (Wallace et al., 2014). In terms of makeup of each religious group in the South, approximately 67% are evangelical Christians, whereas Muslims and pagans are each less than 1% of the population (Pew Forum on Religion and Public Life, 2010). This breakdown implies that majority group members (e.g., Christians) are likely to have fewer opportunities to interact with minority religious members. Consequently, as religious diversity increases in these areas, the majority group members may feel greater threat, especially, since they have had minimal experience with these groups and may rely on their negative stereotypes. Consequently, I expect that,

Hypothesis 3: An increase in religious diversity between t-1 and t will predict a relative rate of increase in religious workplace discrimination charges at time t relative to time t-1. This effect will be stronger for minority religious groups (e.g., Jews, Muslims and Other religious groups) compared to the majority religious group (e.g., Christians).

Economic environment.

One particular economic environment that exerts powerful effects on intergroup behavior is the distribution of resources. Drawing from similar rationale using the *realistic group conflict theory (RCT)*, threats to in-group advantage can come in the form of economic threat can ultimately result in negative intergroup reactions (Campbell, 1965). Negative economic conditions impact emotions as it creates stress (Smith, 2009) and people respond with anxiety (Esses, Jackson, & Armstrong, 1998) and greater prejudicial attitudes and behaviors since economic resources are scarce. Butz and Yogeeswaran (2011) found that when participants were primed with an economic threat (compared to no-economic threat and neutral condition), participants showed greater prejudice towards Asian Americans and this relationship was attributed to the heightened level of anxiety in the economic threat condition. Additionally, these researchers found that economic threat increased prejudice against Asian Americans, but not Black Americans, demonstrating that the ethnic group whose stereotype implied a threat was more likely to be prejudiced against. Similarly, King and colleagues (2010) conducted an experimental study and found that White individuals' personnel decisions and resistance to diversity policies were influenced by economic threat. More specifically, they found

that participants exposed to an economic threat evaluated a minority female job candidate more negatively than a White male candidate and were less willing to support programs related to diversity. This set of evidence suggests that economically competitive environments fuel unique emotional, cognitive and behavioral responses that have damaging consequences for intergroup relations.

As economic conditions change over time, economic threat also varies which can alter intergroup relations in society. When a group has the notion that resources, such as jobs, are limited and only available for possession for a limited number of individuals, it leads to members attempting to remove the source of competition (Esses et al., 1998).. This can take place in a number of ways, such as decreasing the abilities of the outgroup competition by expressing negative attitudes and engaging in discriminatory behavior in the work context (Jay, 1993). As noted, Muslims and Jews are rated high on competent characteristics (Cuddy, Fiske, & Glick, 2008), which can elicit envious stereotypes (Cuddy, Fiske, & Glick, 2007) because these groups are in an advantageous position to compete for economic resources, such as jobs. Consequently, when examining intergroup relations, it may be particularly useful to examine a particular type of economic resource, jobs, which can be done using indexes of unemployment rates. Therefore, I posit that, *Hypothesis 4: An increase in unemployment rate between t-1 and t will predict a relative rate of increase in religious workplace discrimination charges at time t relative to time t-1. This effect will be stronger for minority religious groups (e.g., Jews, Muslims and Other religious groups) compared to the majority religious group (e.g., Christians).*

Religious diversity and unemployment.

The socioecological psychology framework is multifaceted as it allows the unique opportunity to examine multiple aspects of the environment (i.e., physical, interpersonal, economic and political environments). In contrast, other approaches have focused on one environment, such as environmental psychology, which investigates the various ways just the physical environment affects human behavior (Stokols, 1978, 1995). Socioecological psychology's inclusive approach allows researchers to examine the cumulative effects of different environments on a phenomenon, rather than having a narrow focus and ignoring the influence of other relevant factors. For example, an individual who is living in an environment that is rural (physical environment), racially homogenous (interpersonal environment), supports conservative politicians (political environment), and has low economic prosperity (economic environment) will likely have unique emotions and behaviors toward different groups members by being influenced by all of these environments interacting together rather than in isolation. Considering that predictions regarding workplace discrimination based on religious diversity and unemployment rates are both rooted in *threat perceptions*, this section will examine the interaction of these predictors.

As hypothesized, greater religious diversity is expected to relate to greater religious discrimination claims due to perceptions of greater threat rooted in negative stereotypes. The threat rooted in diversity is particularly threatening when there is a scarcity of resources, specifically jobs (i.e., higher unemployment rate). Support for this interaction can be found using the sociofunctional approach (Cottrell & Neuberg, 2005). These researchers suggest that people do not just experience an evaluative valence (i.e.,

prejudice) when encountering members of groups, but also experience discrete emotions towards them. Consequently, in order to understand intergroup behaviors (i.e., discrimination), emotions are critical as they organize and coordinate psychological action so people can respond effectively to events (i.e., economic instability) as it relates to individual survival and success.

Cottrell and Nueberg (2005) argue that people are expected to be more attuned to threats to in-group success when there are tangible outcomes at stake. They explicitly argue that anger is elicited when an outgroup member is seen to gain in-group economic resources (e.g., jobs), which then influences the individual to engage in functionally appropriate aggressive behaviors that are aimed to remove the perceived obstacle. I reason that this aggressive behavior can be in the form of discrimination against outgroup members in the workplace, to eliminate them from the competitive work environment. Consequently, I expect that as religious diversity in a community increases, this increase in diversity is particularly threatening when unemployment rates are also increasing and will result in an increase in religious discrimination charges. In addition, this effect will be stronger for the groups who pose the greatest threat, minority religious groups. Therefore, I hypothesize a three way interaction, such that,

Hypothesis 5: Unemployment rate will moderate the relationship between religious diversity and workplace discrimination charges, such that as unemployment rate at time t relative to $t-1$ increases, religious workplace charges will increase at time t relative to time $t-1$. This effect will be stronger for minority religious groups (e.g., Jews, Muslims and Other religious groups) compared to the majority religious group (e.g., Christians).

Political environment.

Political systems have a profound influence on people's daily lives and impact human mind and behavior. Political bodies are often identified as being liberal or conservative. Political liberalism emphasizes social tolerance and is associated with less negative attitudes toward minorities, which can translate to less reported prejudice behaviors (Katz & Hass, 1988). In contrast, political conservatism has been found to be related to ethnocentrism, intolerance, and opposition to equality (e.g., Jost et al., 2003). These value systems can translate into intergroup relations as well. Indeed, many researchers have repeatedly demonstrated that conservatives (compared to liberals) are more likely to discriminate against outgroups members (e.g., Federico & Sidanius, 2002; Gaertner 1973; Jost, Glaser, Kruglanski, & Sulloway, 2003; Reyna, Henry, Korfmacher, & Tucker, 2006; Wetherell, Brandt, and Reyna 2013).

Consequently, positions held by politicians endorsing a conservative ideology represent a unique political environment as residents of that area elect this individual and likely endorse similar values, setting a norm for the acceptance of these beliefs. Politics in the United States is dominated by its two major political parties, Democrats and Republicans. Although it is impossible to identify all members of either party on every political issue, the key points for the Republican platform align greater with conservative ideologies and the Democrat platform aligns greater with liberal ideologies (Levendusky, 2009), especially when it comes to social issues. In addition, research evidence suggests that voters have strong psychological orientations toward major political parties and that this party identification is relatively stable over time and shapes voters' decisions in

elections (Ladd, 2006). Often, when voters are in a new or unfamiliar election decision, their starting point is with their parties (Key, 1961). Therefore, political bodies that win local elections may serve as a representation of the ideologies and beliefs of people residing in that community. This may result in a culture that creates a norm for individuals to endorse values from that party, which can play a role in intergroup relations.

For instance, evidence from a social survey suggests that attitudes toward Muslims are more negative among Republicans (a more conservative political affiliation) than independents or Democrats (Ogan et al. 2014). Many Republicans comprise of conservative Christians (Kosmin et al., 2009) and conservative ideologies has been linked to attitudes in which outgroup religious denominations are viewed unfavorably. These attitudes carry over the work context as well. For example, Gift and Gift (2014) found that in a résumé study, employers called back Republican applicants at higher rates in a highly conservative county, demonstrating in-group favoritism. Additionally, Acquisiti and Fong (2013) conducted a field experiment in which they submitted resumes to 4,000 U.S. employers and found when applicants identified as Muslim compared to Christian on their social media; they were called back fewer times when employers were located in areas with higher proportions of Republican voters. Based on this rationale and previous findings, I expect that,

Hypothesis 6: An increase in Republican voting behaviors at t relative to $t-1$ will predict a relative rate of increase in religious workplace discrimination charges at t relative to $t-$

1. This effect will be stronger for minority religious groups (e.g., Jews, Muslims and Other religious groups) compared to the majority religious group (e.g., Christians).

METHOD

This study employed a panel design and data were collected from publicly available databases. Data were retrieved and compiled from a twenty-four year time-period including years 1990-2014. These years were selected for three primary reasons: 1) the event of September 11th, 2001 changed the social environment for religious groups and covering this time frame allows for these differences to be captured; 2) this time period allows for multiple longitudinal data points to test each predictor, and finally, 3) the time frame was logistically feasible as the data for several predictors were electronically accessible beginning 1990. All data was merged into one large data file and prepared for analyses.

Sample

The panel data consists of data for each county between the years of 1990 and 2014, resulting in a total of 75,456 total observations. A county represents a geographic subdivision of a state that contains an assigned governmental authority. As of 2013, the United States has a total of 3,144 counties and county equivalents with an average of 62 counties per state and some states contain as few as three counties (e.g., Delaware), while other states have up to 254 counties (e.g., Texas; U.S. Census Bureau, 2013). The variables of interest were linked using FIPS county codes. This is a five-digit Federal Information Processing Standard (FIPS) code which uniquely identifies counties and

county equivalents in the United States. The first two digits reflect the state code and the last three digits indicate the specific county code.

Measures

Dependent variables. A Freedom of Information Act (FOIA) request was submitted to the Equal Employment Opportunity Commission (EEOC) and data regarding the religious discrimination charges filed between the years of 1990-2014 were obtained. Workers are able to file a Formal Charge of Religious Discrimination if they feel they have been discriminated against because of their religion in all work situations including hiring, firing, promotions, harassment, training, wages and benefits (EEOC, 2015). The first step is filing a formal charge and then a number of outcomes may occur later in the process (i.e., settlement, lawsuit filed, charge dismissed). Most employers with at least fifteen employees are covered by EEOC laws and federal employees are also covered, although this group and job applicants follow a slightly different complaint process.

Workers filed a total of 58,655 formal complaints of religious discrimination against their work establishments during this time period. Religious discrimination charges make up on average, 3.2% of all EEOC Discrimination claims (EEOC, 2015). For each charge, information regarding the claimant's religious affiliation (Christian, Jewish, Muslim, or Other), gender (Male, Female, and Unknown), state, and zip code were included. The state and zip code information reflects the location of employment. EEOC provided all the data using zip codes, which needed to be aggregated to the county

level since all of the predictors and control variables reflected county level data. Consequently, a crosswalk file that included zip codes and matching FIPS county codes was purchased from a U.S. company that is licensed to distribute Zip code and Postal Code data (Zip-Code.com). Their databases are updated monthly and verified in an automated fashion. The 2015 Federal Information Processing (FIPS) code set was utilized.

In approximately .002 percent of the overall EEOC sample, specifically 160 claims, there were discrimination charges that did not have a zip code listed and therefore were subsequently removed from the dataset. In addition, there were 264 charges that had a zip code, but no matching FIPS code in the purchased cross-file database. However, each of the 264 zip codes were manually researched and appropriate matching FIPS county codes were located online using the United States Census and Postal Service website indicating the changes in counties (U.S. Census; U.S. Postal Office). For example, a charge that occurred in 1994 had a zip code of “10048”, but the matching FIPS code was missing from the cross-file because it was the zip code for the World Trade Center, which had ceased being used following the tragedy of September 11th. Through this research process, the appropriate FIPS codes were obtained and all of the data was verified using the state and year information provided in the EEOC data. Additionally, using information on the Postal website, all appropriate modifications were made regarding boundary changes over time (U.S. Postal Office) as well. As a consequence of this process, 177 charges were retained and 87 were ultimately removed because zip codes could not be matched with appropriate FIPS code (i.e., some of the zip

codes reflected workplace PO Box addresses or military base locations that were not specified under a county code). Ultimately, the data file included a total of 58,408 counts of religious discrimination broken down by religious affiliation, gender, FIPS code, state, and year. The following variables were then created to be used as dependent variables in all analyses.

Christian Total. A sum was calculated of the 7th Day Adventist, Catholic, and Protestant groups of all genders including Males, Females and Unknown genders to create a Christian total variable.

Jewish Total. A sum was calculated of Jewish Males, Females and Unknown genders to create a Jewish total variable.

Muslim Total. A sum was calculated of Muslim Males, Females and Unknown genders to create a Muslim total variable.

Other Total. A sum was calculated of Males, Females and Unknown genders belonging to religious affiliations that were not Christian, Jewish or Muslim to create an Other total variable.

Independent variables. All of the independent variables include data that were originally collected at the county level and include original FIPS county codes.

Temperature. To capture the physical environment, yearly average temperature for the county was utilized. The data was obtained from the North America Land Data Assimilation System (NLDAS) Air Temperature and Heat Index database. Only years 1990-2011 are included in the current study as data for years 2012-2014 have not yet been computed and published resulting in a total of 68,332 observations. In addition, the

database covers 48 contiguous states in the US (not including Alaska and Hawaii plus the District of Columbia). The average temperature measurement is the mean value of all of the daily temperature measurements that met the selected criteria for time and place. Temperature measurements were recorded for 1/8-degree (14x14 kilometer square) geographic-area grids in the selected area. Measurements from each grid were assigned to the county where the grid centroid is located. The county locations are from the 1999-2000 Federal Information Processing (FIPS) code set. More information regarding this database can be found at <http://wonder.cdc.gov/wonder/help/nldas.html>.

Pre-Post 2001. To examine the difference between pre and post-September 11th discrimination charges, a dummy coded variable was created to indicate if charges were reported prior to or after 2001. Charges that occurred between 1990 and 2001 received a “1” and charges that occurred between 2002 and 2014 received a “2”.

Religious diversity. The Census Bureau does not ask questions regarding religious practices. The only comprehensive dataset that includes numerous religious affiliations over time *and* at the county level comes from the U.S. Religion Census: Religion Congregations and Membership Study, which is designed and carried out by the Association of Statisticians of American Religious Bodies and the Lilly Endowment, Inc. This study is conducted every 10 years and data from 1990, 2000 and 2010 are used in the current study.

Database for 1990. The dataset contains statistics by county for 133 Judeo-Christian church bodies and includes information on their number of churches and members. In October of 1989, an invitation to participate in the study was sent to all of

the Judeo-Christian bodies listed in the *Yearbook of American and Canadian Churches* and congregations whose addresses could be found. The initial written invitation was followed by four additional general letters, personal visits, and phone calls. A total of 246 denomination or groups were invited, 18 expressed intention to participate but were prevented from doing so, 15 declined, 80 did not respond and a total of 133 responded, which included 131 Christian groups, 1 Jewish and 1 Other (Unitarian Universalist Association). The 133 groups reported 255,173 congregations with 137,064,509 adherents, which was 55.1% of the total population of 248,709,766

Groups that did agree to participate were asked to appoint a denominational contact person. Two forms were sent to that person that included: 1) instructions for reporting the number of churches/synagogues and number of members and 2) a transmittal sheet that was signed and sent with the data. The data was returned to the researchers via the participant's own computer, diskette, or the state-county listing provided by the study personnel. The burden of the work was on the denomination office since they were asked to compile data by county for all of their congregations. In a select few cases, the denominations instructed Research Center staff to estimate congregational membership according to a formula, which was always reviewed by the denominational contact person. Further details regarding this dataset may be obtained using the following link: <http://www.thearda.com/Archive/Files/Descriptions/CMS90CNT.asp>

Database for 2000. Participants included 149 Christian denominations, associations, or communions; two specially defined groups of independent Christian churches; Jewish and Islamic totals; and counts of temples for six Eastern religions. The

149 groups reported 268,254 congregations with 141,371,963 adherents, which is 50.2% of the population of 281,421,839. There were 14 non-participating religious bodies that reported more than 100,000 members to the *Yearbook of American and Canadian Churches*, including all historically African American denominations. These groups reported a combined membership of 31,040,360 in the Yearbook, which is not reflected in the congregations and membership data. The lack of historically African American denominations should be noted when referencing the number of total adherents or denominations in an area. Similar procedures to the 1990 data collection efforts were used in data collection. Further details regarding this dataset can be found at: <http://www.thearda.com/Archive/Files/Descriptions/RCMSCY.asp>.

Database for 2010. This study compiled data on the number of congregations and adherents for 236 religious groups in each county of the United States. Participants included 217 Christian denominations, associations, or communions; counts of Jain, Shinto, Sikh, Tao and National Spiritualist Association congregations, and counts of congregations and adherents from Baha'is, three Buddhist groupings, four Hindu groupings, four Jewish groupings, Muslims and Zoroastrians. The 236 groups reported a total of 344,894 congregations with 150,686,156 adherents, comprising 48.8 percent of the total U.S. population of 308,745,538 in 2010.

Similar procedures to the data collected in 1990 and 2000 were used. Altogether, 296 groups were invited to participate; of which 236 are included in the study. Seven groups intended to participate but did not, four declined to participate and 49 did not respond in any way. Following the initial written invitation, two additional general

mailings were sent. Those not responding to these received additional letters, personal contacts, emails, and phone calls. The Research Service staff employed the standard procedures for checking the data. Several special efforts were made to identify and include data from several religious bodies that have not traditionally participated or been underrepresented in similar past studies. These included independent or non-denominational churches, Jewish synagogues, historically African American churches, Hindus, Buddhists, and Muslims. Further details regarding this dataset may be obtained using the following link:

<http://www.thearda.com/Archive/Files/Descriptions/RCMSCY10.asp>.

The outcome of interest in the current study, religious discrimination charges, categorizes claims in four different religious groups, Christians, Jews, Muslims and Other religious affiliations. Consequently, the religious groups in this dataset were also categorized similarly. New variables were computed to represent these groups, meaning all denominations within the Christian, Jewish, Muslim and Other faiths were combined.

Then, to adequately operationalize ethnic diversity, a Blau's index of heterogeneity (Blau, 1977) was computed for this variable. This is a common measure of diversity used organizational scholarship (Hebl & Avery, 2013). This value represents how diverse a group is in regard to a feature (i.e., religion, ethnicity) where a score of 0 represents a perfectly homogenous group and a value closer to 1 means the group is heterogeneous. This value is calculated using the formula " $1 - \sum p_i^2$ " and more specifically for this sample was computed using the following equation, $(1 - (\# \text{ of Christian adherents in that county} / \text{Total adherents in that county})^2 + (\# \text{ of Jewish adherents in that$

county/Total adherents in that county)² + (# of Muslim adherents in that county/Total adherents in that county)² + (# of Other religious adherents in that county/Total adherents in that county)²). The final values represented how religiously diverse a particular county (identified by the respective FIPS code) was in 1990, 2000, and 2010.

Unemployment rate. The economic environment is operationalized as the unemployment rate in a county. These estimates are key indicators of local economic conditions as it represents growth in the economy and resource availability (e.g., jobs). The Bureau of Labor Statistics Local Area Unemployment Statistics (LAUS) program produces annual information regarding the number of unemployed workers and unemployment rate by county resulting in a total of 80,431 observations (BLS, 2016) for years 1990-2014.

An unemployed person is defined as over the age of 16 who has no employment, but is available for and seeking employment. The unemployment values are computed using 3 measures: 1) The Current Population Survey (CPS), which is based on a sample of 60,000 households and measures the unemployment rate based on the ILO definition, 2) The Current Employment Statistics Survey (CES): also known as the "payroll survey", the CES is conducted based on a sample of 160,000 businesses and government agencies that represent 400,000 individual employees, and 3) the State unemployment insurance (UI) systems, which calculates different aspects of unemployment (U1:Percent of Civilian Labor Force Unemployed 15 weeks and over, U2: Unemployment Rate-Job Losers, U3: Unemployment rate, U4: All of U3, plus discouraged workers, U5: All of U4, plus marginally attached workers, U6: All of U5, plus total employed part time for

economic reason workers). The final unemployment values are calculated using data from these sources to create estimates that are adjusted to the statewide measures of employment and unemployment. Unemployment rate, which consists of the percentage of unemployed individuals in the labor population were used in the current study. More details regarding this data can be found at: <http://www.bls.gov/lau/lauov.htm>.

Republican Voters. The political environment was operationalized using the House of Representative election results. The House of Representative election was chosen primarily because these elections are held every two years and members are elected for a two-year term in a single-seat constituency. In contrast, Senators are elected for a six-year term in a dual-seat constituency (2 from each state) with one-third being renewed every two years. The classes are staggered so that only one of the three groups is renewed every two years. Given that House elections occur more often, it may be potentially more indicative of a community's political attitudes and provide better estimates to capture these changes over time. The correlation between presidential and House election results have been found to be close (McCann, 2009). These data were purchased from the *U.S. Election Atlas* and includes the percentage of voters in a particular county that voted for a Democrat or Republican Party in the House of Representative elections between the years of 1992-2014 (U.S. Election Atlas, 2016). Data for 1990 is not electronically available. The data has been compiled using primary sources. This includes original publications produced by official election agencies (e.g., Secretary of State or Election offices). Election results after 1996 are published online and data prior to 1996 were acquired by writing to the Secretary of State offices and them

responding with photocopies of the published data. More details regarding this data can be found at <http://uselectionatlas.org/>.

Control Variables. Two control variables were included in all analyses, ethnic diversity and number of employed workers in a county. These controls variables were also originally measured at the county level.

Ethnic diversity. Religious diversity is conflated with ethnic diversity as individuals from different ethnic groups also adhere to different religious beliefs as well (Kelley, 2008). Consequently, ethnic diversity changes in a county need to be accounted and controlled for. Data was obtained from the Bridged-Race Population Estimates for years 1990-2014, which collects data regarding race population in the United States by county. The full dataset has 78,550 observations. The data draws from Census data collected in 1990, 2000 and 2010. The population estimates following a census or before the next census is derived by updating the resident population enumerated in the decennial census using various measures of population change. Each year following the decennial census, the U.S. Census Bureau produces a series of post-censal estimates that includes estimates for the current data year and revised estimates for earlier years. Estimates for earlier years in a given series are revised to reflect changes in the components of population change data sets

The estimates in the dataset result from "bridging" the 31 race categories used in Census 2000, as specified in the 1997 Office of Management and Budget (OMB) standards for the collection of data on race and ethnicity, to the four race categories specified under the 1977 standards (*Asian or Pacific Islander, Black or African*

American, American Indian or Alaska Native, White). More information regarding this dataset can be found at <http://wonder.cdc.gov/wonder/help/bridged-race.html>.

To adequately operationalize ethnic diversity, similar to religious diversity, a Blau's index of heterogeneity (Blau, 1977) was computed for this variable.

Employed. In the current study, it is important to consider base rates. I reason that the more people in the workforce in a particular county equates to the greater possibility for discrimination to occur. Therefore, to account for the working population, the raw value or number of individuals employed in a county is used as a control variable. This data was obtained using the same database in which unemployment rates were obtained, The Bureau of Labor Statistics Local Area Unemployment Statistics (LAUS).

RESULTS

There are a total of approximately 3,144 counties or county equivalents in the United States. This provides a complete dataset of approximately 75,456 total yearly observations of counties for 24 years (1990-2014). However, the focus in the current study is on examining the effects of changes in the predictors over time within a county. Therefore, Listwise missing data were removed and all observations included as one or both sides of a difference model are included in subsequent analyses, resulting in a total of 65,163 observations for years 1991-2011. Note that data post- 2011 were excluded from final analyses because average temperature data had not been computed and is missing for years 2012-2014.

The primary purpose of the current study is to examine if a change in the independent variables (temperature, event of 9/11, religious diversity, unemployment rate, and Republican voting behavior) at $t-1$ (prior year) relative to t (following year) predicts a change in religious discrimination claims at $t-1$ (prior year) relative to t (following year). Therefore, a difference-in-differences (DID) estimator is used to model a yearly difference within a county. This is a statistical technique that is often used with panel data in econometrics and quantitative research within the social sciences that aims to study the differential effect of an explanatory variable on an outcome comparing the average change over time (Wooldridge, 2010).

In the current study, all analyses were conducted in Stata-Version 4. Difference variables were to capture change (in the current study, a yearly change). For example, one of the dependent variables, Christian religious discrimination totals in year 2008 may be a total of ($t = 4$) and for 2007 it may have been ($t-1 = 2$) for a particular county. The difference variable computed would essentially be $\text{Christian_T}(t) - \text{Christian_T}(t-1) = 2$ to capture the change in that particular year. All variables (i.e., independent, dependent and controls) used in the analyses were differenced. Then, a multivariate multiple, first difference regression was used for subsequent analyses using the newly formed difference score variables. The same assumptions of the ordinary least squares (OLS) model apply when using the difference-in-differences estimator. Similar to how a traditional regression would operate and even a Hierarchical Linear Model (HLM) without time built in as a predictor, the difference scores are averaged over time. Specifically, the coefficients are average changes over all time periods. Each dependent

variable (Christian totals, Jewish totals, Muslims totals and Other totals) was regressed onto all independent variables (temperature, pre-post 9/11 dummy code, religious diversity, unemployment rate, percentage of Republican voters) separately. The means of the Christian totals, Jewish totals, Muslim totals, and Other totals had their own regression coefficients, but were estimated together.

The interactions to test if some effects were stronger than others among the religious groups were tested using a Wald Test. Conceptually, it is the same as a standard interaction test in a moderated regression with centered predictors, albeit with a different form due to the way the model was estimated. A traditional interaction term with centered predictors tests the effect of the moderator as it deviates from the overall average effect. This test mimics that interaction test by first averaging all 4 coefficients (for all 4 religious groups) and SEs and then testing the difference of each group's coefficient from the overall average. A Wald test (which is chi-square distributed) was then used to test whether the average and individual coefficient was different.

Using a difference-in-differences technique is the most appropriate strategy for this particular study. Conceptually, this study aims to examine how fluctuations in the environment impact changes in religious discrimination charges in that particular community over time. The focus of the study is on change within a particular county and not necessarily changes across counties. Analytically this approach is advantageous as the possibility of time and between-county confounds is alleviated by differencing. Specifically, all between county effects are removed by the differencing process. A county-level effect is time invariant and will be at time t and time $t-1$. Differencing them

removes that effect entirely leaving only the time varying change. All other time invariant effects are also removed through this differencing strategy.

Although using difference scores is common in economics, in the management field, there is concern about the drawbacks of difference scores (Edwards & Parry, 1993; Edwards, 1994; Edwards, 2001; Edwards, 2002). These drawbacks have to do with measurement unreliability and partly to do with applicability of both t and $t-1$ effects. Specifically, errors in measurement can compound with difference scores and make effects harder to find. Also, many researchers are actually interested in both "sides" of the difference score. However, measurement error is not a central focus in the current study and modeling both $t-1$ and t effects is not strictly of interest (and does not effectively remove between-county confounds). Edwards (2001) alternative to difference scores is to use response surfaces, which applies primarily to "fit" (perceived vs. actual needs; expected vs. actual pay, etc.) and is not directly relevant to the current study. Overall, by differencing, variance between counties is removed and makes the focus on change and not just linear trends, which may be confounded with time and between-county effects. Consequently, for the current study, the average change (i.e., $t-1$ and t) over time (i.e., using panel data, 24 years) in the outcome variable (i.e., religious discrimination claims) is compared across groups (i.e., Christians, Jews, Muslims, and Other religious groups).

All hypotheses (with the exception of Hypothesis 2) were tested using a multivariate multiple, first difference regression. The dependent variables used in the regressions were difference scores of (a) Christian, (b) Jewish, (c) Muslim and (d) Other

religious group total religious discrimination charges. The independent variables, specifically, (a) average temperature, (b) Blau's index of religious diversity, (c) percentage of labor population unemployed, (d) and percentage of Republican voters were all difference scores as well. Difference scores of the control variables, (a) Blau's index of ethnic diversity and (b) number of employed individuals were also computed. In addition all of the dependent variables (Christian, Jewish, Muslim and Other totals), some of the independent variables (Blau's index of religious diversity and unemployment rate) as well as the control variables (Blau's index of ethnic diversity and number of employed individuals) were skewed. Following the recommendation of Weinsberg (1985) for correlational and regression analyses, a natural log transformation was applied using natural log $(\ln) = \ln(\text{variable}+1)$.

Finally, because House of Representative elections occur every two years and religious diversity data was collected every 10 years and the difference-in-differences model aims to capture yearly changes, these two variables were interpolated. More specifically, the data for odd years of election and the time between the decades is considered to be missing; therefore, a longitudinal imputation method was used in which values were estimated for the missing data (Twisk & deVente, 2002). The linear interpolation imputation method estimates values for the missing time points based on the known values. A missing value at t is imputed by the average value at $t = t - 1$ and $t = t + 1$. In this approach, the change is considered to be linear, resulting in small amounts of change for each time point. This process allows the variable a chance to more adequately capture yearly change using bi-annual and decade data.

All independent, dependent and control variables were entered and used in the multivariate, multiple first difference regression to test Hypotheses 1, 3, 4, 5, and 6. The descriptive statistics and correlations provided in *Table 1* are based on original variable values, but the regression analyses were conducted using natural log, interpolated values and difference scores. In addition, regression results are provided in *Table 2*. It is important to note that R squared values are not reported as the focus of the analyses is not to explain variance in the underlying discrimination variable, rather explain the variance in differences. Consequently, coefficients and standard errors are included in *Table 2*.

Hypothesis 1 proposed that an increase in temperature at t relative to $t-1$ would predict an increase in religious workplace discrimination charges at t relative to $t-1$, and that this effect would be stronger for minority religious groups (e.g., Jews, Muslims, and Other groups) compared to Christians. Indeed, a change in temperature generally predicted greater religious workplace discrimination charges, ($F(4, 65154) = 3.16, p = .01$). This effect was stronger for Muslims ($F(1, 65154) = 5.83, p = 0.02$). However, interaction results for Jews ($F(1, 65154) = 0.05, p = 0.83$) and Other religious groups ($F(1, 65154) = 0.00, p = 0.96$) were not statistically significant. More specifically, moderated regressions indicate that the change in temperature resulted in an increase in Muslim religious discrimination claims ($\beta = .001, p = .00$).

Hypothesis 2 predicted that religious workplace discrimination charges would generally be higher following the tragic event of September 11th and this difference would be greater for Muslims compared to any other religious group. This hypothesis was tested using a multivariate regression with absolute values, not difference scores

considering the interest is in change between two dichotomized time periods, prior to 2001 and after 2001 and not yearly differences. All the same covariates were used. Results indicated that the time period post 2001 did predict generally more discrimination claims, ($F(4, 68266) = 125.81, p = 0.00$). This effect was stronger for Muslims, ($F(1, 68266) = 43.74, p = 0.00$). More specifically, the significant difference between pre and post 2001 suggests that Muslim discrimination increased by 2% in the time period after 2001 ($\beta = 0.02, p = .00$). In addition, the effect was also stronger for Jews ($F(1, 68266) = 46.11, p = 0.00$), but suggested that claims decreased ($\beta = -0.02, p = .00$) whereas the effect was stronger for Other religious groups ($F(1, 68266) = 126.87, p = 0.00$) and similar to the Muslim effect, displayed an increase in claims in the period post 2001, ($\beta = 0.03, p = .00$).

For Hypothesis 3, it was expected that an increase in religious diversity would predict an increase in religious discrimination charges and the effect would be stronger for minority religious groups compared to the majority group. Results suggested that a change in religious diversity does predict generally more discrimination claims, ($F(4, 65154) = 2.33, p = 0.05$). When examining the interaction for individual religious groups, results found little support for an interaction with Jews ($F(1, 65154) = 0.39, p = 0.53$) and Muslims ($F(1, 65154) = 2.36, p = 0.12$). The effect is marginally significant for the average Other effect ($F(1, 65154) = 3.39, p = 0.06$), which suggests that an increase in religious diversity also results in a marginal increase in Other religious discrimination claims ($\beta = 0.52, p = .01$).

Hypothesis 4 proposed that an increase in unemployment rates will predict an increase in frequency of religious workplace claims and this effect will be stronger for minority religious groups compared to Christians. Results indicate that change in unemployment rate did not predict generally more discrimination claims, ($F(4, 65154) = 1.58, p = 0.17$). There was no interaction effect for Jews, ($F(1, 65154) = 0.22, p = 0.64$), Muslims ($F(1, 65154) = 0.15, p = 0.70$), or Other religious groups, ($F(1, 65154) = 0.65, p = 0.42$).

However, in testing Hypothesis 5, results indicated that there is an interaction between religious diversity and unemployment rate, ($F(4, 65154) = 2.63, p = 0.03$) and this effect is stronger than average for Muslims ($F(1, 65154) = 4.09, p = 0.04$), but not Jews ($F(1, 65154) = 1.91, p = 0.17$) or Other religious groups ($F(1, 65154) = 0.01, p = 0.94$). Although the Muslim effect was stronger than average, it itself is not above the 0 mark in absolute value ($\beta = 0.47, p = .52$). Specifically, although the Muslim effect moderates the relationship, the simple slope is still non-significant.

Finally, Hypothesis 6 predicted that an increase in Republican voting behaviors would predict an increase in frequency of religious workplace discrimination charges and this effect will be stronger for minority religious groups compared to Christians. However, change in Republican voting did not predict generally more discrimination claims ($F(4, 65154) = 0.49, p = 0.74$). The interaction was also not significant for Jews ($F(4, 65154) = 0.06, p = 0.81$), Muslims ($F(1, 65154) = 0.65, p = 0.42$) or Other religious groups ($F(1, 65154) = 0.60, p = 0.44$).

DISCUSSION

The purpose of this study was to determine how the environments in which organizations are embedded influence workplace religious discrimination charges filed with the EEOC. Specifically, the study aimed to examine if changes in temperature, religious diversity, a historical event (9/11), unemployment rates and voting behaviors predict changes in religious discrimination charges. Overall, the results indicate that changes in some objective environments do indeed influence changes in workplace experiences and thus underscore the importance of integrating broader contextual factors in management science.

Indeed, results supported the first hypothesis, revealing that an increase in temperature results in an increase in religious discrimination claims. These findings are consistent with previous research demonstrating that heat plays a role in affective, cognitive and arousal variables (Anderson, 2001). Exposure to hot temperatures influences individuals both physically and psychologically as it increases heart rate, induces hostile affect (i.e., feelings of anger), which ultimately primes aggressive thoughts, attitudes and behaviors, which can be expressed in the form of discrimination (Anderson, 2001). The current findings add to our understanding of aggression by demonstrating that the consequences of heat in a natural environment carry over into a variety of contexts, including intergroup relations in the workplace. In addition, the effect was stronger for one minority religious group in particular, Muslims. As previous studies have noted, feelings of anger evoked from temperature (Griffit & Veitch, 1971) can promote prejudice toward outgroup members (DeSteno & Dasgupta, 2004). Considering attitudes toward Muslims have been increasingly negative in the last decade, this

outgroup may be particularly vulnerable to aggression evoked from heat. Ultimately, the findings suggest that organizations located in areas where temperatures are higher or increasing over time need to be aware that these environmental changes may play a role in their employees being more susceptible to workplace discriminatory experiences.

The analyses testing Hypothesis 2 indicate that religious discrimination claims were indeed higher following the tragic event of September 11th and this effect was stronger for Muslims. These findings support previous studies that indicate media as well as attitudes, beliefs and behaviors towards this group became increasingly negative following the event of September 11th (Edgell, Hartmann, & Gerteis, 2006; Nacos & Torres-Reyna, 2003; Sheridan, 2006). In addition, results suggest that discrimination claims following 2001 were not only greater for Muslims, but also increased for Other religious groups as well. This can be attributed to the fact that Muslims and particular Other religious groups may be more vulnerable as members of these groups often adhere to attire that visually identifies them (i.e. hijab, turban) and have characteristics (i.e., South Asian, Middle Eastern descent) that increases *perceptions* of belonging to the outgroup that was responsible for this tragic event. Consequently, this may be why an increase in discrimination claims was not found for Jews, as this group was not held accountable for the tragic event. Indeed, previous statistics indicate Sikhs and Hindus (categorized as Others in the current study) were often believed to be Muslim and faced increasing levels of discrimination in the aftermath of September 11th (EEOC, 2013). Currently, socioecological psychology focuses on physical, interpersonal, economic and political environments. I conceptualized the tragic event of 9/11 as representing an

interpersonal environment, as it affected human relations (Oishi, 2014). However, in building the socioecological psychology framework, historical events need to be uniquely considered. These findings suggest that workplaces are influenced by national events as they impact people's perceptions of certain groups, which are carried into the workplace as well. This finding provides further support for scholars' assertions of the importance in incorporating history in human resource management research (Nkomo & Hoobler, 2014).

The results for Hypothesis 3 suggest that an increase in religious diversity predicted an increase in religious discrimination claims. These findings are consistent with predictions drawn from *realistic group conflict theory* and previous work regarding the influence of community demography on the workplace (Campbell, 1965; Brief et al., 2005) in suggesting that as diversity increases, perceptions of threat rooted in negative stereotypes about out-groups increase as well. Although the effect of religious diversity as a whole was significant, the moderation results indicated that the effect was not significantly stronger than average for Jews or Muslims and was marginally significant for Other religious groups. An increase in demographic diversity in a community facilitates interactions with people different from one's own group. Stereotypes serve a functional purpose to allow people to understand and simplify intergroup interactions. Although negative attitudes and beliefs about Jews and Muslims have been well documented (Asani, 2003; Cuddy, Fiske, & Glick, 2008; Fisk et al., 2002; Wuthnow, 1982), less is known about stereotypes regarding Other minority religious groups. Consequently, it can be possible that the marginal significant effect ($p = 0.06$) for Other

religious groups was driven by individuals feeling even greater threat when interacting with outgroup members that are different from themselves that they knew little about. Indeed, previous research suggests that novelty and unpredictability of interactions (Jones, 1984) cues heightened evaluations of danger and uncertainty, which leads to threat responses physiologically, behaviorally, and subjectively (Blascovich et al., 2001). Overall, the findings indicate that in general, changes in the make-up of the community plays a role in not only intergroup relations outside of the organization, but also within the organization.

The current study found no support for Hypothesis 4, which predicted that an increase in unemployment rates would result in an increase in religious discrimination claims as well. This is contrast to what was expected based on *realistic group conflict theory* and previous findings (Campbell, 1965; Buts & Yogeeswaran, 2011). Instead, the results demonstrate that unemployment rate plays a role as a moderator in the relationship between religious diversity and religious workplace discrimination charges in line with Hypothesis 5. Consistent with expectations of *realistic group conflict theory* (Campbell, 1965) and the *sociofunctinoal approach* (Cottrell & Neuberg, 2005), threat rooted in an increase in religious diversity is particularly threatening when tangible resources are at stake, specifically as unemployment rates increase, thus resulting in greater religious discrimination charges. Examining the effects of religious diversity and unemployment rates together was particularly relevant in the current study as predictions for both indicators were rooted in threat perceptions. These findings indicate that studying

interactive effects of different environments can provide unique insights and can help advance socioecological psychology scholarship.

Finally, there was no evidence to support Hypothesis 6 predicting that changes in Republican voting behaviors related to changes in religious discrimination. These results are contrary to expected findings as previous studies have noted that political conservatives tend to have correspondingly conservative racial attitudes (Krysan, 2000) and have become increasingly concentrated in the Republican Party (Levendusky, 2009). It could be possible that these effects were not found because areas with a greater number of conservatives also have less religious diversity, or outgroup members to actually discriminate against. Indeed, an analysis of electoral results indicate that areas voting and passing laws that are more conservative such as constitutional amendments banning gay marriages are the least densely populated in the country (Kron, 2012). The results of voting behavior suggest that perhaps a more complex relationship is at play and other factors need to be considered as well, such as community diversity.

Theoretical Implications

The current paper advances theory by taking a novel interdisciplinary approach grounded in both sociology and psychology using the socioecological psychology framework to examine how environments influence discrimination experiences in the workplace. First, management science has missed the importance of incorporating context into its scholarship in general. Several, scholars have argued that the impact of context on organizational behavior is not sufficiently recognized and incorporated by organizational researchers (Hartel & Connor, 2014; Johns, 2001; Johns, 2006). The

inclusion of contextual variables in management research can strengthen conceptualizations, methodologies and interpretations of results.

Second, previous research has paid less attention to *objective* factors in understanding intergroup relations and relied more on understanding intergroup dynamics based on culture (Kitayama & Cohen 2007) and evolution (Buss, 1984) to name a few. However, the current research draws from socioecological psychology and finds support that intergroup relations are influenced and shaped by different natural and social habitats. The study advances research by identifying how effects of objective environments ultimately manifest in aggressive behaviors in the form of discrimination at work.

Third, previous research has often focused on one environment, but the current study considers how multiple environments, specifically the physical, interpersonal, political and economic environments shape behaviors toward outgroup members. In reality, cognitions, emotions and behaviors are influenced by a variety of factors and environmental cues, therefore, their cumulative effects and interactions should be examined. Finally, communities change over time. By using panel data, the study theoretically addresses how communities evolve and as a result, intergroup behaviors change as a function of these environmental trends. Overall, using this approach grounded in socioecological psychology advances research regarding predictors of intergroup processes.

Practical Implications

As globalization of business increase, management scholars have been paying greater attention to national cultures. However, the social lives and contexts of individuals and organizations are still rooted in local contexts, while being exposed to global trends. These local effects have several practical implications. Companies operating in different locations should be aware that different communities have different baggage that employees are bringing into the work environment. For example, based on the location of organizations, regional differences may exist due to temperatures being higher in some areas, which the current study found to be related to greater workplace discrimination. Consequently, an intervention that organizations can implement is having better climate controls in the workplace. For instance, researchers have found that aggressive honking increases in hotter temperatures, but only for drivers who were without air-conditions cars (Kenrick & MacFarlane, 1986). Therefore, as organizations become more educated about the consequences of the external environment, workplaces may engage in changes in temperature controls (i.e., air conditions, access to more water foundations) to minimize the negative consequences that are a result of higher temperatures.

Second, in light of the current study's findings, organizations should consider the effectiveness of organizational diversity and inclusion policies and practices across geographic areas as their usefulness may vary depending on the communities in which establishments are located. For example, a systematic study on the effectiveness of diversity training found that the majority of these programs had little (or negative) effects on various measures of effectiveness (Kalev, Dobbin, & Kelly, 2006). Indeed, researchers

have critiqued the inadequate design, implementation, and outcomes of diversity training programs (e.g., Bezrukova, Jehn & Spell, 2012; Chrobot-Mason & Quinones, 2002; Kulik & Roberson, 2008; Roberson et al., 2003). However, by systematically attending to the fact that communities shape people's attitudes and biases and these continue to function in the work context, organizations can incorporate these findings to tailor diversity training programs. By considering the current study's findings, specifically that religious diversity, unemployment rate, the historical event of 9/11 predicted religious discrimination; diversity trainings can incorporate these findings and perhaps focus on countering threat perceptions that explain these effects.

Finally, many organizations operate with the goal of bettering the communities in which they are embedded and engage in local civic activities. Consequently, organizations may want to extend diversity related programs aimed to change attitudes and reduce bias into the local community to battle intergroup conflict outside the organization as well. This can be in the form of incorporating diversity initiatives into their recruitment strategies, advertisement and community work. These types of initiatives are a way of giving back to society and the effects can ultimately also trickle back to the organization.

Limitations and Future Research

The present study has several advantages over previous studies including 1) studying change using longitudinal data, 2) measuring predictors and outcome variables from across the entire United States using data from small geographic locations (i.e., counties), and 3) considering predictors from different ecologies (i.e., physical,

interpersonal, economic and political). However despite a number of these advantages, the study also had a few limitations.

First, for each specific discrimination charge, for anonymity reasons, only the zip code, gender and religious affiliation (broadly) was provided by the EEOC. Although the top religious affiliations by population are included, Other religious groups were all grouped together. A more detailed breakdown of affiliations may be fruitful for future work to better understand different minority groups' unique workplace experiences. In addition, little was known about the actual nature of the discrimination claim. There may have been variability regarding if the claim related to attire, accommodation, or harassment. Understanding the type of discrimination can help researchers understand the nature of reactions to changes in environments. Finally, no information was provided indicating what industry or job type the claims were from. This may have been particularly useful in interpreting study findings. For example, in better understanding the implications of temperature on workplace discrimination experiences, it would make sense that this effect would be stronger for occupations in which employees require more outside work compared to working inside in the comfort of an office. Future research can examine the unique roles of these different moderators.

Although EEOC discrimination charges provide some indication of the workplace experiences of many groups, it is important to note that discrimination experiences are often underreported for fear of retaliation and other consequences. Similarly, surveys have found that 71% of individuals who experience sexual harassment do not report it (Catalyst, 2015). Additionally, charges represent perceptions of discrimination and

cannot be equated with actual discrimination occurrence (unless outcomes of charges are provided, which were unknown). Despite all of the aforementioned limitations, EEOC discrimination charges are the only nationally representative time-series organizational data capturing workplace discrimination that exists for the United States.

Future research can build upon this work and examine underlying mechanisms using controlled studies. Controlled studies can also allow for stronger measurement of constructs of interest. For example, in the current study, political conservatism was operationalized as percentage of Republican voters in the House of Representative election. This measurement was chosen because it allowed for a greater number of data points for the panel data. However, previous statistics suggest that voter turnout for midterm elections usually drops, compared to Presidential election years (DeSilver, 2014), which means that fewer voters were represented in odd election years. Additionally, when examining the histogram for this variable, although it was mostly normally distributed, there was an excessive number of 0% and 100%. The data revealed that in some counties and time points, only one candidate was nominated in the election, resulting in this party winning by default and not adequately representing the county's voting attitudes. These limitations may have been related to the lack of support for our last hypothesis. Consequently, directly measuring political attitudes and correlating it with discrimination in a controlled study may be more fruitful for future research. Overall, alternative operationalization of all variables should be examined.

CONCLUSION

In sum, the current study found evidence that environmental factors influence religious workplace discrimination claims. Specifically, changes in temperature, religious diversity and unemployment rate predicted greater religious discrimination charges. Organizations are embedded in different, localized contexts, which influence workplace norms and how different religious groups are treated in the workplace. The current paper directs theoretical and empirical attention to understanding the importance of community influences on organizations. As Brief et al. (2005) stated, “community conflicts produce attitudinal baggage; and, when this baggage is unpacked, community matters spill over into organizations” (p. 839). These findings warrant future research to closely examine the effects of the context on workplace experiences, especially pertaining to diversity related issues. Overall, combining community-level data with organizational and individual level data can advance our knowledge of the mechanisms of inequality and be useful in promoting equity in the workplace.

Table 1*Descriptive Statistics and Correlations for Raw Variables*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Christian_T	0.12	0.68	1										
2. Jewish_T	0.08	0.66	.60	1									
3. Muslim_T	0.13	1.16	.52	.52	1								
4. Oth_T	0.34	2.15	.76	.64	.61	1							
5. Temperature	64.68	9.05	.07	.02	.00	.08	1						
6. Pre-Post 9/11	1.50	0.50	.05	.02	.06	.07	.00	1					
7. Religious Diversity	0.06	0.09	.18	.24	.18	.24	-.19	.30	1				
8. Unemploy .	6.20	2.98	.04	.00	.04	.07	.12	.71	.25	1			

9. Republican Voters	54.59	21.4	-.08	-.11	-.09	-.10	.07	.13	-.01	-.04	1		
10. Ethnic Diversity	0.24	.19	.21	.20	.19	.26	.55	.09	.22	.18	.14	1	
11. Employed	422.51.05	13.64.58.3	.76	.69	.55	.78	.02	.00	.28	-.01	-.13	.26	1

Table 2

Multivariate Multiple Regression Analyses Using Difference-in-Differences Estimates to Predict Religious Discrimination Charges

	Christians		Jews		Muslims		Others	
	β	<i>SE</i>	β	<i>SE</i>	β	<i>SE</i>	β	<i>SE</i>
Temperature	-.00	.00	.00	.00	.00	.00**	.00	.00
Pre-Post 9/11	.01	.00	.00	.00	-.00	.00	.00	.01
Religious Diversity	.16	.15	.15	.11	.05	.12	.52	.20**
Unemployment	-.00	.01	.01	.01**	.01	.01	.01	.01
ReligDiv x Unemp	-1.41	.92	-1.78	.67	.47	.72	-.80	1.24
Republican Voters	.00	.00	.00	.00	-7.28	.00	.00	.00
Employed	-.05	.02	.02	.02	-.00	.02	-.00	.03
Ethnic Diversity	.21	.21	.16	.15	.33	.16*	.01	.00*

Abbreviation: SE, standard error

* $p < .05$, ** $p < .01$

APPENDIX A: ALTERNATIVE ANALYSES

There are a variety of analyses that can be utilized when testing hypotheses using panel data. This section will briefly outline the different analyses that were considered for the current study. First, a time series analysis was considered as the current study had a unique time data field (year). In addition to each data record including a time data field (year), it also includes an additional identifier unrelated to time (county FIPS code). Time series is often utilized in several domains of applied science and engineering that involves temporal measurements. But, it did not conceptually make sense to use this analysis in the current study as there is not believed to be some “periodicity” or waves over time in how the phenomenon (religious discrimination) occurs for *all* independent variables. Time series analyses are better utilized when assessing stock market behavior or other cyclic processes.

Second, a log transformed linear effect in Hierarchical Linear Modeling (HLM) was considered in which year by counties could be used as observations. However, using the log transformed linear effect can produce odd predictions, similar to fitting a linear regression to dichotomous variables. In addition, the current study does not have any Level II hypotheses or interest in modeling *between* counties. Third, growths modeling in MPlus as well as Poisson/Negative Binomial Regressions analyses were also considered. However, these analyses would be harder to implement as well as more complex to

understand with the current dataset. For instance, there is no such thing as a Level 1 residual in a 2-Level Poisson regression.

Overall, when examining the complete dataset in the current study, only about 16% of all FIPS-by-year observations had a non-0 value for religious discrimination claim (count data). It would be tricky to fit as a single-level model in county format especially as the interest is to examine smaller group differences. Consequently, using a difference model is valuable as all between county effects are removed by the differencing leaving only the time varying change. This model provides the best output for the hypotheses and is more interpretable than other models.

APPENDIX B: JUSTIFICATION FOR INTERPOLATION TECHNIQUE

In the current study, the interest was to examine yearly differences in the independent variable influenced changes in the dependent variable. Consequently, the difference-in-differences analysis requires data points for each year to be able to adequately test and examine these yearly differences. Two of the independent variables in the current study, election results and religious diversity data, did not have yearly data. Specifically, House of Representative elections occur every two years and religious diversity data is collected every ten years. Therefore, the data that is considered to be missing was interpolated, which was approximately 50% and almost 90% of the data respectively.

Although a large proportion of the data was imputed, it is important to recognize the fact that the data was missing due to the fact that elections actually occur every two years and the study examining religious diversity by county actually occurs only every 10 years. Conceptually, the “missingness” of the data is not related to any other factors. Second, variables with lots of missing data points end up with larger error terms and do not produce appropriate analytical results. Therefore, it is a better option to analyze results using imputations. Finally, choosing the best imputation method is essential to preserve as much of the actual data values as possible.

In the current study, interpolation was used to derive data points for the missing data. This is a longitudinal imputation method in which values are estimated for the missing data based on the known values (Twisk & deVente, 2002). In this approach, change is considered to be linear, resulting in small amounts of change for each time point to represent the data more realistically. Using this linear approach estimation for these variables is reasonable for a variety of reasons. First, scholars have noted that religious diversity has been steadily increasing over time in the United States (Wuthnow, 2011); consequently, using a linear estimation method based on known data from every 10 years is adequate. Second, election occurred every two years, providing greater data points for better estimation for the missing data points. Third, the Census uses a similar type approach for calculating Intercensal estimates (Bridged-Race Population Estimates, 2016). Intercensal population estimates are estimates made for the years between two completed censuses and take into account both census values. For example, the intercensal estimates for 1991-1999 are based on Census values from 1990 and 2000.

In a paper that aimed to illustrate the influence of missing data on results of longitudinal analyses using different imputation methods, the researchers found that using imputation was recommended because several longitudinal analyses use Listwise deletion of cases and it is best to preserve as much of the data as possible (Twisk & deVente, 2002). In addition, longitudinal imputation methods were preferred above cross-sectional imputation methods because data was derived from greater points resulted in point estimates and standard errors closer to estimates derived from complete dataset (Twisk & deVente, 2002). Another study looked at the effectiveness of another

imputation technique, the multiple imputation, which is a known effective method for handling missing data for data with 10% to 80% missing observations and found that multiple imputation produces less-biased estimates overall (Lee & Huber, 2011). Finally, it is important to note that temperature data for years 2012, 2013, and 2014 have not yet been computed, therefore, were missing in the dataset. However, temperature data could not be interpolated because interpolation uses a linear trend approach and fills in data in between the missing values and latter half of values were all missing. Overall, interpolating the missing data for election results and religious diversity was appropriate for the analyses used and allowed the opportunity to capture yearly change using actual bi-annual and decade data.

APPENDIX C: RE-ANALYZING HYPOTHESIS 2

Hypothesis 2 predicted that religious workplace discrimination charges would be higher following the tragic event of September 11th and the difference would be greater for Muslims compared to any other religious group. In the current study, the hypothesis was tested by examining the change between two time periods, prior to 2001 and after 2001. However, it may be the case that patterns of discrimination were different before, right after the event and then several years following the event. Therefore, a new variable was created in which the charges were broken into three time periods, 1=charges 1990-2000, 2= 2001-2005 and 3=2006-2014. The hypothesis was tested using a multivariate regression with absolute values and all of the same covariates. The analyses found a similar pattern of results indicating that the different time periods of data did predict generally more discrimination claims, ($F(4, 68266) = (147.86, p = 0.00)$). This effect was stronger for Muslims, ($F(1, 68266) = 22.03, p = 0.00$). More specifically, the significant difference between the time periods suggests that Muslim discrimination increased ($\beta = 0.009, p = .00$). In addition, the effect was also stronger for Jews ($F(1, 68266) = 542.82, p = 0.00$), but suggested that claims decreased ($\beta = -0.01, p = .00$) whereas the effect was stronger for Other religious groups ($F(1, 68266) = 206.50, p = 0.00$) and similar to the Muslim effect, displayed an increase in claims in the period post 2001, ($\beta = 0.02, p = .00$).

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