

A Field Investigation of Flight Anxiety: Evidence of Gender Differences in Consumer Behaviors Amongst Las Vegas Passengers

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Abstract

Purpose: This study examines how anxious the Las Vegas public is through a case study of one local international airport.

Design/methodology: This study examines gender differences in consumer behaviors among the flying public inside Las Vegas McCarran International Airport in a field experiment theoretically grounded in Terror Management Theory.

Findings and Originality/value: Because airports are replete with reminders of human mortality, it is not a surprise that death awareness and flight anxiety may be closely related. The flying public that is anxious to fly presents an interesting public relations situation for airports. Therefore, this study examines how anxious the Las Vegas public is through a case study of one local international airport. Results show that flight anxiety does provoke the same kind of existential defenses that traditional death awareness does. This study also suggests that men and women do not react to flight anxiety in a uniform way, they are different in their reactions in seeking to gamble, eating unhealthy food, and an increased desire for electronic entertainment.

Keywords: Terror Management Theory; flight anxiety; consumerism; gender; field experiment

1. Introduction

Getting ready for a flight and going to the airport is often a stressful event. Adding to this stress, airports provide an excellent opportunity to remind air travellers of death. While waiting in line for security (and while going through), one may subconsciously (and sometimes

consciously) be reminded of why you are going through security in the first place. The reason we go through security is to protect us from individuals who want to kill us in the air or in the airport. Then, once on the plane, the flying public is presented with a safety message that reminds them what to do if there is an emergency in flight. It is no surprise that death awareness and flight anxiety may be closely related. In short, airports are replete with reminders of human mortality, and when the flying public is anxious to fly it presents an interesting public relations challenge for airports.

With the increase of crashing planes lately due to pilot error (e.g., Asiana Flight 214), it is natural to think that flight anxiety has increased as of late. However, when the flying public continue to see (the more troubling) missing aircraft (Malaysia Flight 370) and realize the possibility of now being shot down while flying (Malaysia Flight 17), flight anxiety (and consequently death awareness) is most likely front and center in the minds of air travellers these days. The media further fuels this anxiety with their sensational game-framed (covering who's alive and who's dead) coverage, and often makes it worse (Harvell, Nisbett & Miller, 2013). In fact, in a recent study examining the notion of death awareness, flight anxiety, and plane crash news coverage, results show all types of flight anxiety present after viewing plane crash news (Harvell et al., 2013). This study found that news coverage of plane crashes affects anxiety involving getting ready for a flight, during the flight, and even merely thinking about airplanes (Harvell et al., 2013).

This anxiety doesn't only make it uncomfortable in airports, but it also can lead to certain troubling behaviors outside of airports. For instance, research has shown that death-salient individuals became concerned with food security and consequently hoarded food (Allen & Wilson, 2005). Other research shows that death awareness causes individuals to engage in risky behavior (Taubman Ben-Ari, 2000; Taubman Ben-Ari, Florian & Mikulincer, 1999). Because of the options available that are unique to Las Vegas McCarran International Airport (e.g., gambling), flight anxiety can have expensive consequences for Las Vegas passengers. Therefore, this study examines the notion of consumerism behaviors amongst Las Vegas passengers when taking into account death awareness and flight anxiety. We also examined gender as it affects both consumer spending behavior (Griskevicius & Kenrick, 2013) and mortality salience (Walsh & Smith, 2007). If flight anxiety is leading to these troubling behaviors, that could lead to further troubling behaviors amongst the flying public that could lead to an airport crisis.

2. Terror Management Theory

Terror Management Theory (TMT) is a theoretical approach examining the psychological effects of pondering one's own death (Pyszczynski, Greenberg & Solomon, 1999). When individuals think about the inevitability of their death approaching, anxiety begins to erupt from within (Becker, 1973). When this occurs, individuals will try to defend against it and alleviate this anxiety (Pyszczynski et al., 1999). There are two types of defenses: proximal and distal. Proximal defenses occur right after the reminder of death; it is what happens immediately following the death pondering (Pyszczynski et al., 1999). Distal defenses, on the other hand, occur after a short delay from the time of the initial death pondering (Pyszczynski et al., 1999). A TMT meta-analysis suggests the ideal delay to achieve distal defenses is 10-15 minutes (Burke, Martins & Faucher, 2010). Most of the TMT literature to date examines distal defenses, since there is usually a natural delay present between pondering death and making decisions. However, the present study examines proximal defenses due to the fact that passengers may make consumerism choices immediately following or during thinking about their flight anxiety and/or being reminded of the possibility of their premature death.

There are three main ways individuals try to alleviate their existential anxiety: through a cultural worldview (CWV) defense (Pyszczynski et al., 1999), by drawing on their high or low self-esteem (Pyszczynski et al., 1999), and/or through drawing on their close relationships (Mikulincer, Florian & Hirschberger, 2003). All individuals adhere to some kind of CWV. This CWV could be anything ranging from what religion they practice, what political party they belong to, and even their cultural heritage (Pyszczynski et al., 1999). When individuals become aware of their existential anxiety, they will pull close those that are like them (i.e., part of their CWV) and push away those that are not like them (i.e., not part of their CWV); Pyszczynski, Greenberg & Solomon, 2005. By pulling those individuals that are part of your CWV closer, existential anxiety is relieved because together, there is a shield that protects you and those like you against those not a part of your CWV.

Similarly related to CWV, is the anxiety buffering mechanism of self-esteem. If individuals have high self-esteem, they believe they are good examples of their CWV and that legacy will live on after they are dead (Pyszczynski et al., 2005). However, if individuals have low self-esteem, they believe they are bad examples of their CWV, and after they depart from this world people will remember them poorly (Pyszczynski et al., 2005). Therefore, individuals holding high self-esteem will be better able to combat their existential anxiety. Last, closely tied to self-esteem, is the management of close relationships. The more close relationships one holds, the better he or she will be able to work through their existential anxiety (Mikulincer et al., 2003). When individuals become death aware, they cling to these close relationships as a way to feel better about themselves and the idea of dying (Mikulincer et al., 2003).

3. Terror Management Theory and Consumerism

Research has consistently shown that individuals high in materialism tend to psychologically pursue and invest in personal possessions and goods and services (e.g., Holt, 1995; Richins & Dawson, 1992). The pursuits to secure these various items can come from reactance against insecurity (Fromm, 1976; Maslow, 1954). These insecurities then lead to obsessions about products that satisfy basic necessities (Allen & Wilson, 2005). It even occurs without threats to physical security (Allen & Wilson, 2005). When converged with TMT, money assists in one's self-worth (Arndt, Solomon, Kasser & Sheldon, 2004). This idea is ultimately tied to one's CWV. By buying materials and goods, it offers protection from basic existential fears that are culturally embraced (Arndt et al., 2004). For instance, money can buy treatments to keep you young, and houses and cars that make you feel young. By doing this, these individuals are ensuring that they endure, in some form, beyond their death by building a figurative immortality (Arndt et al., 2004).

The idea that money can make you feel happy is one that occurs all over the world. In the Asante Society, located in Ghana, West Africa, after someone dies, the relatives spend enormous amounts of money to compete in over-the-top displays of material wealth as part of their death-ritual performances (Arndt et al., 2004). Research has shown this not only helps bolster self-esteem, but also helps solidify Asante members' life as secure, therefore serving as a form of symbolic immortality (Arndt et al., 2004). By doing this for someone else, the Asante Society knows that when they die, they will most likely have it done for them, therefore leading to a form of literal immortality (Arndt et al., 2004). Additionally, research has shown that death-aware individuals have shown a stronger desire for high status items rather than low status items when compared to controls (Kasser & Sheldon, 2000; Mandel & Heine, 1999). One can conclude that death awareness causes people to seek high-status items.

Las Vegas McCarran International Airport (LAS) provides an opportunity to measure the effects of mortality salience on consumer behavior in a non-laboratory setting. Not only does this airport include food and high- and low-status items like any other airport, it also includes gambling and an emphasis on electronic entertainment, something that is not characteristic of any other airport in America. This offers an interesting case study for what flight anxiety (and death awareness) does to individuals in a setting where, in addition to normal behaviors, opportunities to engage in high-status activities as well as risky behavior (e.g., gambling) can take place. Additionally, this case study allows us to discuss, based on the results of this research, how flight anxiety amongst the flying public can affect public relations practices within the airport.

4. Moderating Gender with TMT and Consumerism Behaviors

There have been several studies throughout the years of TMT research that gender has been examined within the existential context. However, gender has never been examined as a moderating variable when looking at various consumerism behaviors as well as risky behaviors. By not examining gender as an independent variable, the moderating variable allows the investigation of gender affecting both variables in a more nuanced manner. That is, we can determine whether the effects of mortality salience on the consumer behaviors of interest vary as a function of gender, or whether the effects are independent of gender. We feel that for these reasons, examining gender as a moderating variable allows us more real-world results and the ability to generalize increases.

Gender provides valuable information and social expectations to the individual; it helps define one's social identity (Fritzsche & Jonas, 2005). When discussing the gender identity aspect of TMT's cultural worldview defense, women tend to be group focused and interdependent (Arndt, Greenberg, Schimel, Pyszczynski & Solomon, 2002; Jost & Kay, 2005; Spence & Buckner, 2000). In fact, Wash and Smith (2007) found that when thinking about death and gender, women desire inclusiveness. However, when thinking about death and American culture, women tend to strive for uniqueness. There has been research that suggests there may be possible mediators to gender and death awareness, affecting the relationship. Some of these include: social desirability, depression, and mastery. With social desirability, women are more likely to share troubling thoughts, therefore women may not actually have more anxiety, but a higher desire to express their anxieties (Eshbaugh & Henninger, 2013). People who fear death are also probably depressed as a result, and women tend to experience more depression than men (Eshbaugh & Henninger, 2013). Last, women have a higher desire to control, and since you cannot control death, this would make women more anxious about their future death (Eshbaugh & Henninger, 2013).

Research over the years has consistently shown differences in how existential anxiety is handled between men and women, and in some cases there has been an age gap as well. For instance, older females (ages 65-80) have been found to have significantly more death awareness than older males in the same age category (Eshbaugh & Henninger, 2013). However, both groups had the majority of people with average death awareness, not high or low (Cicirelli, 1999; Kaur Kang, 2013). Generally, though, research consistently shows women having more death anxiety than men (Dattel & Neimeyer, 1990; Ens & Bond, 2007; Jackson, 2008; Rose & O'Sullivan, 2002; Russac, Gatliff, Reece & Spottswood, 2007).

Younger women also tend to have a similar amount of anxiety. For instance, adolescent girls have higher death anxiety than adolescent males (Ens & Bond, 2007). This even permeates the college crowd with these women also having a higher level of death anxiety than college

men (Cicirelli, 1998; Rose & O'Sullivan, 2002), which is suggested by a meta-analysis of cross-cultural college students (Lester, Templer & Abdel-Khalkek, 2007).

While women have consistently been shown to hold more death anxiety than men, when examined in the context of risky behavior, the results are quite different. When men are death salient, they reported higher chances of driving recklessly, when driving was relevant to their self-esteem (Taubman Ben-Ari & Findler, 2003). Additionally, the death-aware women did not have the desire to recklessly drive (Taubman Ben-Ari & Findler, 2003). So, TMT mechanisms were enacted for men but not for women. Because LAS provides the opportunity to purchase not only basic food, but also high-status items and a large amount of gambling opportunities, that airport provides a superb opportunity to examine these issues with gender as a moderating variable amongst the flying public. Thus, it is predicted:

H1: For the mortality salient condition, death-aware men will have a higher desire to gamble than death-aware women.

There is an understanding amongst the literature that women are generally more death aware than men (Dattel & Neimeyer, 1990; Ens & Bond, 2007; Jackson, 2008; Rose & O'Sullivan, 2002; Russac et al., 2007). However, the literature is inconclusive regarding a desire toward engaging with electronic entertainment when death aware. Because Las Vegas and consequently, the airport, places a high emphasis on electronic entertainment, we are interested in examining whether death salience moderated by gender has an effect on usage of electronic entertainment amongst the flying public. Thus, it is asked:

- *RQ1: When moderated by gender, what relationship does death salience play on usage of electronic entertainment?*

There has also been a lack of understanding regarding food consumerism behaviors and death awareness when moderated by gender amongst the flying public. Thus, it is asked:

- *RQ2: When moderated by gender, what relationship does death salience play on the desire to purchase unhealthy food?*

TMT literature to date has failed to investigate the relationship between death awareness and flight anxiety. Because of what was found in Harvell et al. (2013) study regarding types of flight anxiety, it makes sense to think flight anxiety would work similarly to death awareness. Therefore, this study examines if that is the case. Thus, it is asked:

- *RQ3: How are flight anxiety and death awareness related?*

5. Method

A research team consisting of four researchers (all of whom are authors of the current manuscript) obtained permission from the relevant authorities (as well as passing background checks) to conduct research inside the security gates at Las Vegas McCarran International Airport (LAS). The researchers asked potential participants if they would participate in a "brief study in exchange for a candy bar." To avoid a biased sample, researchers approached every individual within a particular waiting area. Further, and also to avoid a biased sample, the researchers visited all major sections of the airport. Hence, the individuals who participated in the study were a representative cross-section of people in the airport.

6. Participants

Originally there were 122 participants. However, many participants were disqualified from inclusion in the study based on several factors. First, some skipped the mortality salience induction, whereas others skipped the dependent variable. Second, some participants completed the survey out of order, such that they completed the dependent variable prior to the independent variable. Third, some participants evinced scant evidence of literacy. Due to removal of these participants, our $N = 109$. The sample was diverse. All geographic regions of the US were represented. Ages ranged from 19 to 75 ($M = 45$, $SD = 15.80$). The average income range was identified as \$50,001 to \$70,001. Racial diversity was below expectations, as 80% of participants were White, 4% Black, and 5% of participants indicating other races or declining to indicate race (11%). Forty-two percent of participants were female. In general, the sample was representative of the broader US population. All participants were a part of the flying public.

7. Mortality Salience

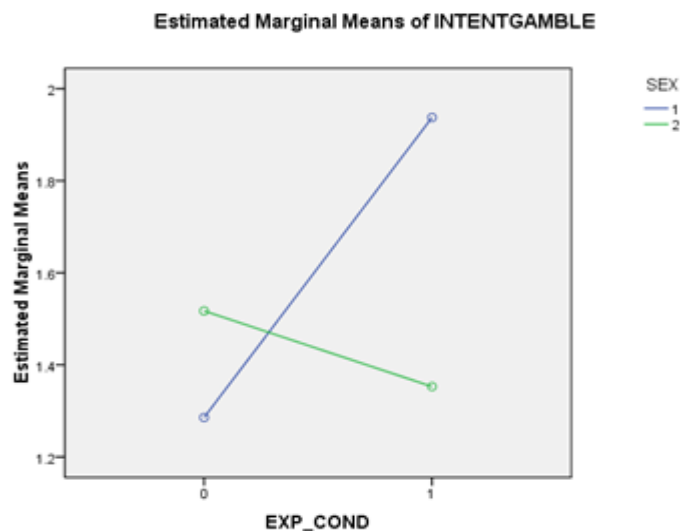
Questionnaire packets were randomized prior to beginning the experiment. Among participants who happened to be given a mortality salience condition questionnaire, participants were asked to "Describe in detail what your main fears or anxieties are about air travel." Our expectation was that participants' fears of air travel would be of events with the possibility of death – such as air disasters. This expectation was supported, as a reading of the responses indicated explicit mortality salience. In contrast, participants who happened to receive the control condition questionnaire packet, which stated, "We are interested in how you feel about McCarran International Airport. Describe in detail your overall experience while spending time in Las Vegas McCarran International Airport." As expected, a reading of participants' responses indicated they did not write about death in this condition. Hence, our experimental manipulation was successful.

8. Dependent Variables

After completing the experimental manipulation, as well as some unrelated measures, we assessed participants' desire to gamble ($M = 1.55$, $SD = 1.06$), desire for electronic entertainment ($M = 1.19$, $SD = .64$), and desire for unhealthy foods ($M = 2.28$, $SD = 1.24$). Participants indicated their desires by indicating from 1 (strongly disagree) to 5 (strongly agree) with the following statements: "I intent to gamble (e.g., slot machine) in the airport in the next hour", "I intend to buy an unhealthy food item (i.e., burger/fries) in the airport in the next hour" and "I intend to buy an electronic item in the airport in the next hour."

9. Results

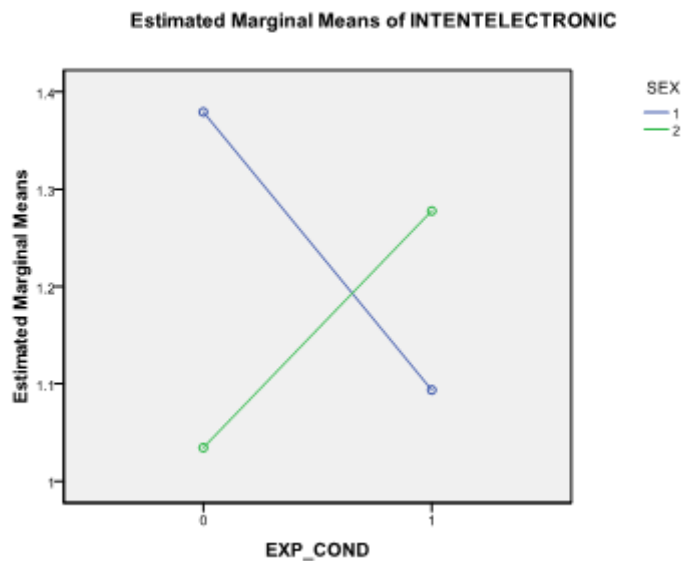
Hypothesis one predicted for the mortality salient condition, death-aware men would have a higher desire to gamble than death-aware women. A hierarchical linear regression was run to examine the moderating effect of gender on the relationship between death salience and desire to gamble. There was a significant interaction between mortality salience and gender ($\beta = .58$, $r^2 = .04$, $p = .05$); see Figure 1. There was a significant main effect for mortality salience on males ($t = 2.42$, $p = .02$), but not for females ($t = .51$, $p = .61$). Mortality salience was linked with a greater desire to gamble for men than for women.



Notes. Exp_Cond is the experimental condition where 0 = no death salience (control) and 1 = death salience (experimental). For sex, 1 = male and 2 = female.

Figure 1. Desire to Gamble

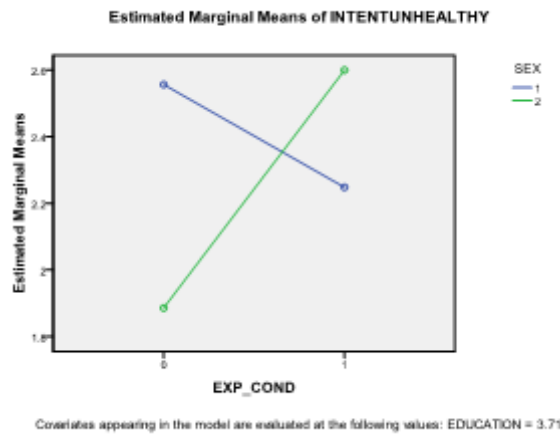
Research question one asked when moderated by gender, what relationship does death salience play on usage of electronic entertainment. A hierarchical linear regression was run to examine the moderating effect of gender on the relationship between death salience and desire to use electronic entertainment. There was a significant interaction between mortality salience and gender ($\beta = .62, r^2 = .05, p = .04$); see Figure 2. There was no significant main effect for mortality salience on males ($t = -1.75, p = .08$), nor for females ($t = 1.27, p = .21$). Mortality salience was linked with a greater desire to use electronic entertainment for women than for men.



Notes. Exp_Cond notes the condition where 0 = no death salience (control group) and 1 = death salience (experimental group). For sex, 1 = male and 2 = female.

Figure 2. Desire to Use Electronic Entertainment

Research question two asked when moderated by gender, what relationship does death salience play on the desire to purchase unhealthy food. A hierarchical linear regression was run to examine the moderating effect of gender on the relationship between death salience and desire to purchase unhealthy food. When controlling for level of educational attainment, there was a significant interaction between mortality salience and gender ($\beta = .62, r^2 = .04, p = .04$); see Figure 3. There was no significant main effect for mortality salience on males ($t = -.97, p = .33$), but the effect on females was approaching significance ($t = 1.90; p = .06$). Mortality salience was linked with a greater desire for women eat unhealthy foods compared to men.



Notes. Exp_Cond notes the condition where 0 = no death salience (control group) and 1 = death salience (experimental group). For sex, 1 = male and 2 = female.

Figure 3. Desire to eat unhealthy foods

Research question three asked how are flight anxiety and death awareness related and is qualitatively discussed in the following section.

10. Discussion

The idea that the flying public has the possibility of encountering flight anxiety prior to flying in an airport is somewhat troubling. We never know what individuals are capable of when put under stress, and in this case, flight anxiety. Therefore the potential for members of the flying public to psychologically snap while inside the airport, or worse on a plane, is concerning. The results of this study provide an interesting snapshot the LAS flying public, their general state of anxiety, and how this anxiety affects their behaviors within the airport.

Research question three asked how are flight anxiety and death awareness related. Because of the nature of how anxiety psychologically works, it makes sense that one would draw the link between flight anxiety and death awareness. Why are people anxious to fly? Because they most likely feel like something bad will occur while on the plane. Therefore, we conducted a qualitative analysis to examine how the flying public described what made them anxious to fly. By examining what they said, it would be easy to qualitatively determine if there was a link between their flight anxiety and general death awareness.

After three of the authors analyzed the paragraphs, it was clear flight anxiety worked very similar, if not the same, as death awareness. One passenger states when asked about what makes them anxious to fly, "Ever see Lost? Well ... That." In the first episode of Lost, a large portion of the episode is dedicated to a horrifying plane crash where the plane falls apart

midair and some people are left on the plane while others are thrown out hurling toward the ground in an imminent death. Other participants said things like, "CRASHING!!!", "Take off-fear of crashing to ground; Air Turbulence – falling out of sky", "Malfunctioning aircraft – I know the odds are in my favor, but it's still scary", and "terrorists on the plane." Crashing was by far the most prevalent anxiety throughout the experimental condition of the LAS flying public. However, other anxieties held were fear of security and anxieties regarding whom passengers were sitting next to on the plane. Very few passengers stated they lacked flying anxieties. Overall, it appeared that passengers were very anxious. It's interesting to note that most of the flying public at LAS seem to be fearful of crashing. This is somewhat concerning and has grave implications for not only their psychological state but also their behaviors within the airport.

In addition to a qualitative analysis, the quantitative analysis of the DTA provides insight into passengers' death awareness. An independent samples t-test was conducted between the experimental and control groups to assess death awareness. Results show an approaching significant difference between these groups ($t(82) = 1.82, p = .069$ (Control: $M = 1.96, SD = 3.44$; Experimental: $M = 1.61, SD = 3.15$).

Because these two analyses seem to suggest there was death salience amongst the LAS flying public, it seems that the general anxieties about flying appear to work in the same way that general death awareness does. This is most likely due to what appears to be the root of flight anxiety, dying. Unfortunately, there is nothing really that airports can do to help curb this anxiety. Planes will always crash, and therefore the flying public will always fear that their flight will be doomed. What airports can do, though, is understand these anxieties and understand how they affect various airport behaviors. By understanding these anxieties and the behaviors associated with them, airports can have a better handle on the type of services and products that should be offered in airports as a way to help alleviate passenger anxiety.

11. Gender Effects

The first hypothesis stated there would be a higher desire to gamble for death-salient men when compared to death-salient women, which was supported. Because gambling can be considered a type of risky behavior, the results continue to enforce extant research. For example, Taubman Ben-Ari (2000) showed that when a risky behavior is related to self-esteem, individuals will engage in the risky behavior when made death aware. In the case of this study, men may think gambling is the "cool" thing to do in Las Vegas. Additional research on gambling has said that non-problem gambling was done in an effort to procure high self-esteem, but if the person had a gambling problem, then it was low self-esteem (Landau & Greenberg, 2006). However, we assume most of the LAS flying public taking our survey were

non-problem gamblers because if they were, they would be gambling rather than taking our survey. Therefore, by participating in gambling (a risky behavior), we argue these male passengers were increasing their self-esteem by gambling. Extant research has provided an understanding about gender differences and risky behavior, however none of these studies examine differences with gambling. Because LAS provides gambling opportunities in the airport, it provides us with a novel look into gender, risky behavior, and flight anxiety.

The first research question examines what relationship does death salience play on usage of electronic entertainment, when moderated by gender. Results show that when death aware, women had a much stronger desire to use electronic entertainment than men. Past research has shown when induced with death, men were drawn away from what was normal – they valued uniqueness (Walsh & Smith, 2007). In Las Vegas, the use of electronic entertainment is normal. In fact, to not use it would be considered extremely odd and abnormal. These results suggest that when men were reminded of death (or flight anxiety), it pushed them the opposite direction to value uniqueness. Furthermore, other research has shown women are more likely to affiliate with their own group (CWV) (Walsh & Smith, 2007). This seems to be what is happening with this data. However, because we didn't explicitly prime for death, it adds further to the argument that flight anxiety and death awareness produce the same terror management defenses amongst the flying public.

The second research question investigated what relationship death salience played on the desire to purchase unhealthy food when moderated by gender. Results showed MS did cause women to want to eat more unhealthy food. Allen and Wilson (2005) found that when death aware, people are concerned with food security and consequently hoard food. Additionally, and particularly interesting for this study, the participants also used food for emotional security when death aware. While research has examined death awareness and food security, no TMT research to date has examined this notion with gender as a moderator. Therefore, the LAS women flying public, when faced with reminders of what makes them anxious to fly (i.e., death awareness), there was a desire to purchase unhealthy food and this could easily be transferred as a way to gain emotional security. These women wanted to eat as a way to help alleviate their anxieties. This adds to the existing literature on death awareness, consuming unhealthy food, and gender effects.

12. Limitations & Future Research

Field experiments are tricky, especially when they incorporate the TMT methodology. One limitation is that at the beginning of data collection, we noticed some of the flying public was not completing the survey in the order in which it appears. Because of the important manipulation at the beginning of the survey, it was important that the survey was completed in order. Those surveys ($n = 4$) were ultimately thrown out and the remainder of the flying public was reminded to complete the survey in order. After this minor tweak to the instructions was done, there were no further problems with this. The second limitation regarded a “no” problem amongst passenger participants. Once two or three people in one area said no to taking the survey, we had to move to a new area, because all of the other passengers around the “no” individuals would also say no. This did not prove problematic for the research, but nonetheless an interesting observation.

13. Conclusion

Overall, this research provides interesting and novel insights in to TMT within the context of gender. First, this research provides evidence that flight anxiety provokes the same kind of existential defenses that death awareness does. Second, this research merges TMT and gender effects in a contextual area that has yet to be explored by existential scholars. In short, the current research indicates that men and women do not react to flight anxiety in a uniform way; men and women react differently. Men seek to gamble more, whereas women seek to eat unhealthy food and an increased desire for electronic entertainment.

This research also provides insight into consumerism behaviors at Las Vegas McCarran International Airport, which can help that particular airport (as well as others like it) craft advertising messages to account for flight anxiety. While this study did find death awareness/flight anxiety does affect consumer intentions, more research is needed to investigate consumerism and flight anxiety at other airports, large and small, across America. Last, more research is needed from a public relations perspective to investigate further how airports can curb flight anxiety to avert crises amongst the flying public.

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