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An Examination of How Ratings of Airlines are Effected by Different Types of Information: A Mediation Analysis

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by

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Abstract

Title: An Examination of How Ratings of Airlines Are Effected by

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Many dynamics directly or indirectly influence the decision-making process. An individual's demographic features, such as gender, country of origin, and emotions are some of the dynamics. In the aviation domain, air passengers purchase their air travel tickets under those dynamics. The purpose of this study was to determine if the airline type, gender of participants, and participants' country of origin had an effect on ratings of an individual's perception of safety and willingness to fly, and which emotions had a mediating effect on this relationship. The study included Lufthansa Airlines and Turkish Airlines from Europe. The affect was the participants' feeling outcomes of presented airline information. The feelings were Ekman and Friesen's (1971) universal emotions that include happiness, surprise, fear, disgust, anger, and sadness. The results of the study indicated that airline type, gender, and country of origin had a statistically significant effect and significant interaction on safety perception and willingness to fly. Also, emotions were found significant mediators on the mediation paths. Particularly happiness, fear, anger, and disgust emotions had a significant influence on participants' decision outcomes.

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Dedication

This dissertation would never been written without the great support of my dear

wife, Tugba. She has been the best partner, wife, and mother. I am grateful for

her support and love. I am dedicating this dissertation to her and our lovely son,

Ahmet Yavuz.

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Chapter 1

Introduction

Problem Statement

Previous literature reviews have shown that emotions have significant effects on a person's decision outcomes. Affect can influence attitudes (Huntsinger, 2011) and motivation (Marien, Aarts, & Custers, 2012). Affect also had effects on a person's life and world perceptions (Bless & Fiedler, 2006; Bodenhausen, Mussweiler, Gabriel, & Moreno, 2001; Clore, Schwarz, & Conway, 1994; Forgas J. P., 2006; Schwarz & Clore, 2007). Positive affect makes a person more positive about world view (Jones & George, 1998). Affect, and particularly positive and negative affect, has an effect on cognitive judgments (Forgas, 2006). Dunn and Schweitzer (2005) discovered that, while positive affect increases a person's trust in another entity, negative affect decreases a person's trust in another entity.

Bauer (1960) equalized consumer behavior with risk taking and added that consumer decisions involve uncertainty and potentially unpleasant consequences. Behaivor decision theory was an area of how consumer's emotion arises and influences decision outcomes. Behavioral decision theorists noted that many decisions are made under the conditions of negative emotions, and having to make a decision increases the negative emotion (Hogarth, 1987; Janis & Mann, 1977; Simon, 1987). The recognition of emotional sides of decision making led researchers to conduct cognitive research in this area. For

example, difficult decision outcome investigations focused on cognitive aspects, such as a difficult information process. However, pure cognitive aspects cannot explain difficult decision phenomenology. Two coping mechanisms of difficult decisions are the accurate decision approach and the avoidance of an unpleasant negative emotion. A consumer might cope with a negative emotion or difficult decision by focusing on specific directional goals.

Various theoretical approaches have indicated that, unlike traditional thinking in psychology and economics (Neisser, 1967; Simon, 1956), emotions play an active role in some forms of decision-making. Regardless of whether people have considered the "goodness" or "badness" of alternatives for action (Slovic, Finucane, Peters, & MacGregor, 2007), humans can anticipate potential emotional impacts of future decisions and so, emotions have been consistently shown to influence decision making (Heilman, Crisan, Miclea, Miu, & Houser, 2010).

Up to now, very few studies have investigated the public perception of aviation on trust and willingness to fly. Even fewer of those investigations were emotion-based investigations. This study will try to close the gap of analysis about air passengers' emotions and the mediating effects emotions have on ratings of safety and willingness to fly with particular airlines.

Purpose Statement

Due to the of lack of empirical data about air passengers' ratings of safety and willingness to fly, the purpose of this study was to determine if the airline type, gender of participants, and participants' country of origin had an

effect on ratings of safety and willingness to fly, and which emotions had a mediating effect on this relationship.

Definitions

  Airline type. The study included two airlines as the levels of airline type as the independent variable. Both of the airlines were from Europe (Lufthansa Airlines and Turkish Airlines). Appendix A included detailed information about the airlines.

  Affect (emotion). Batson, Shaw, and Oleson (1992) defined affect as a positive and negative feeling in response to a stimulus. Custers and Aarts (2005) defined affect as a feeling state. Russell (2003) defined the affect as "a neurophysiological state that is consciously accepted as a simple, non-reflective feeling that is an integral blend of hedonic (pleasuredispleasure) and arousal (sleepy-activated) values" (p. 147).

  General affect is associated with activation of the appetitive system, whereas negatively valenced affects are associated with the defensive system (Lang, 1995; Lang, Bradley, & Cuthbert, 1990). Positive affect is associated with social activities and pleasant events. Negative affect is "a general dimension of subjective distress and unpleasurable engagement" (Watson et al., 1988, p. 1063).

  In the study, affect was the participants' outcome feelings of the information about the presented airlines (Appendix A). The included feelings were universal emotions that are explained in next section. Affect was a mediator variable that influences an individual's decision outcomes and was

measured by an affect scale (Appendix B). The affect scale is a sliding type scale that ranges from zero to hundred. Mathieson and Doane (2003) claimed that fine-grained scales and continuous scales, like sliding scales, increase the power consistently higher than Likert-type scales. The researchers added that this increase is not statistically significant. On the other hand, some researchers argued that presence of more response options might reduce kurtosis and positive biases that found in Likert-type scales (Dawes, 2008).

Universal emotions. The universality hypothesis proposes that six basic human emotions (happiness, surprise, fear, disgust, anger, and sad) are expressed by using the same facial muscular movements across all cultures (Ekman & Friesen, 1971). All individuals have nearly the same type of facial muscles to produce basic universal facial ezpressions; this is because emotional responses are the same in the face (Waller, Cray, & Burrows, 2008).

Safety rating. Safety rating was an outcome of a safety perception scale. The measure used a five-point Likert type scale on which the participants rated their feelings about nine questions. The scale asked participants their feelings about the airline's aircraft, in particular about emergency equipment, durability, mechanical sounds, cabin pressurization, on-board equipment, safety, security, whether it was well built or not, and maintenance quality.

Willingness to fly. The willingness to fly measurement scale asked participants their feeling when flying with the airline. The scale had been demonstrated to measure consumers' willingness to fly (Rice et al., 2015). "The creation of this scale used consumers in all five stages of development from

word generation to word pairing to discrimination" (Rice, Winter, Kremer, Mehta, & Oyman, 2015, p. 203).

Research Questions and Hypotheses

RQ1: How does information given about the airlines effect consumer ratings of safety and willingness to fly?

H_0: The given information does not affect consumers' safety rating and willingness to fly.

H_1: The given information affects consumers' safety rating and willingness to fly.

RQ2: How does the gender of the consumer affect consumer ratings of safety and willingness to fly?

H_0: Gender does not affect consumers' safety rating and willingness to fly.

H_1: Gender affects consumers' safety ratings and willingness to fly.

RQ3: How does country of origin of the consumer affect consumer ratings of safety and willingness to fly?

H_0: Origin of country does not affect consumer ratings of safety and willingness to fly.

H_1: Origin of country affects consumer ratings of safety and willingness to fly.

RQ4: What interactions are there between airline information, gender, and country?

H_0: There is no interaction between the variables.

H_1: There is an interaction between the variables. This is a non-directional prediction, as we have no *a priori* basis for a directional prediction.

RQ5: Does affect (emotion) mediate the relationship between the independent variables (IVs) and ratings of safety and willingness to fly?

H_0: Affect does not mediate the relationship between the IVs and ratings of safety and willingness to fly.

H_1: Affect mediates the relationship between the IVs and ratings of safety and willingness to fly.

RQ6: Which, if any, emotions mediate the relationship between the IVs and ratings of safety and willingness to fly?

H_0: Six universal emotions do not have an effect on the relationship between the IVs and ratings of safety and willingness to fly.

H_1: At least one of the six universal emotions will have an effect on the relationship between the IVs and ratings of safety and willingness to fly.

Significance of the Study

Although the consumer behavior is not under the control of the airline executives, it is crucial to learn how to recognize consumer behavior changes and properly adapt them to revenue management strategies (Boyd & Kallasen, 2004). Sahay (2007) says airline executives need to develop a feedback mechanism to have better understanding of customer travel habits in order to increase their revenue. To do so, Rattfild and Vinod (2005) say that information

that directly comes from the consumer is a real data source that can be further exploited to improve airline revenues.

This study provided a consumer perception snapshot to the aviation domain. Especially commercial airlines can have benefit from knowing their potential passengers' feeling frame. As a result, the airlines may modify their sales and marketing strategies especially for the Indian and American air passenger markets. According to the results, emotion based advertisements may take place to affect consumers and increase the sales. Knowing how to reach a consumer increase cost efficiency since airline customers act upon their perceptions and see airline transactions as either a gain or loss, like proposed in the prospect theory (Kahneman & Tversky, 1979).

The two airlines had a real image of their brand value among potential aviation consumers. Companies pay a large amount of money to consulting agencies to conduct this kind of market observation. This study provided each airline's specific position in the relevant aviation market between the other airline. This would lead the airline to review or update marketing and sales strategies. Since the airline consumers' nature has been changing, Riddell suggested that airlines should adapt and move toward a customer-based focus and concentrate on "what they tend to buy, how often they buy and what they are willing to pay" (2006, p. 168).

To measure safety outlook is really a difficult, but a hot topic for the airlines. Consumers' safety perception is one of the top factors that influence air ticket purchasing decisions, depending on the society. There might be safety

perception differences between Indian consumers and American consumers. If the difference exists, then according to the results, the airline may have a chance to review and specifically focus on perception of the aircraft subsystems.

If the state of the participants is known, the study might be a potential flight destination pre-analysis of the market. On the other hand, the study became a consumer feedback mechanism of airlines' current flight route destinations. The international airline industry should pay attention to the results of this study because the sample size can be considered as large and the study can provide a customer-centered airline perception.

Abraham Maslow developed a theory on human needs that attempted to bring together and integrate contributions from Freud, Jung, Adler, Fromm, Levy, Homey, and Golstein (Oleson, 2004). This theory of human needs was given the term "Maslow's Hierarchy," which concluded that there were seven basic needs: physiological, safety, belongingness/love, esteem, self-actualization, knowledge/understanding, and aesthetic. For the purposes of this research, it can be concluded that if an aviation consumers' emotion and safety perspective were positive, the needs of the passengers can be considered as met. The met consideration will enforce the consumers to purchase tickets from or prefer the targeted airline.

Trust and safety literature is very rich. There are large number of studies in which trust and safety have been examined from various perspectives, for example, organizational trust, organizational safety, social trust, and social

safety. But a limited amount of research examined emotions as a mediator variable among those constructs. Especially, a few cross-cultural studies took emotions as the mediation variable. This study focused on cross-cultural affect mediation analysis upon international airlines. The study employed a unique methodology to analyze different effects of different emotions on airline preference and their perceptions. The study also allowed using different emotions as mediator variables in airline safety and willingness to fly outcomes.

Willingness to fly has not been studied widely. Most of the studies took "trust" and "comfort" as dependent variables. Rice et al., (2015) has developed and validated the first known willingness to fly scale among airline consumers. The current study was one of the pioneering studies that employed that airline consumer willingness to fly scale.

Last, Vinod (2008) recommended that consumer centered revenue management has became very important. He stated, "the key components of customer-centric revenue management are still in their early stages of evolution" (2008, p. 40), and stated more research is required to fully understand airline consumer preferences.

Assumptions

Outliers are referred as extreme data point and they may be due to measurement error or experimental error (NIST, 2012). Presence of outliers affects the strength of statistical results.

Independence of the observer is an ANOVA assumption that mandates participants to rate only one condition. In the currents study, the participants,

who were presented Turkish Airlines information and participants, who were presented Lufthansa Airlines information, were different individuals.

Normality is an ANOVA assumption that requires the scores normally distributed around the mean (Cardinal & Aitken, 2006). According to Pallant (2007), a violation of the normality assumption is not a problem if the sample size is greater than 30 or 40. Elliot and Woodward (2007) imply that even if the dataset does not meet the normality assumption, parametric tests can be used for data analysis. Normality assumption also can be visually checked by normal q-q plots for large samples. If the distribution is approxiamately normal, Central Limit Theorem accepts the distribution as normal.

Another ANOVA assumption is (homoscedasticity) homogeneity of variances. Homoscedasticity assumes that all groups have the same or a similar variance. To test this assumption, the researcher checks Levene's Equality of Variances. Violation of this assumption increases incorrectly reporting a significant difference in the group means when none exists. Rusticus and Lovato (2014) claimed that a non-significant Levene's test result could be also a reflection of an insufficient sample size or unreliable measurements.

Limitations and Delimitations

All research studies have limitations and this research is not an exception. Although Amazon's ® Mechanical Turk ® provides reliable data that as laboratory data (Buhrmester, Kwang, & Gosling, 2011; Germine et al., 2012), there are still some limitations. First, the sample can be generalized only to American and Indian participants who were online at the time of data

collection. So, the use of a convenience sampling strategy negatively affects the external validity. In other words, the study had limited generalizability to extend the study findings to the entire population.

Another limitation was that the participants may or may not have been active airline consumers. Some of the participants may have never been on an aircraft. So the questions become purely theoretical for this kind of participant. Some of the social psychology studies are similar with theoretical construction and there is strong evidence that attitudes influence future behaviors (Ajzen & Fishbein, 1977). So, I have a belief that future researchers are allowed to replicate the current study employing higher fidelity scenarios.

One delimitation for the study might be usage of the six universal emotions described by Ekman and Friesen (1971) for examination. In the literature, there is not complete agreement about which emotions are universal. For the purpose of this research, this lack of agreement was not considered as a fatal flaw.

Using only American and Indian participants was another delimitation for the study. Those two country's participants did not reflect worldwide population image, especially for trust, emotion, and safety perceptions based on cultural aspects. Because every country has its own cultural aspects, only Indian and American cultural decision outcomes were included the study via participants.

Another delimitation was the choice of the two different airlines. While there were hundreds of airlines, I chose only the two that I thought would have the biggest impact on the current study.

Chapter 2

Literature Review

Trust

Trust is a construct and concept that has been investigated in many different areas, such as psychology (Terpstra, 2011; Rice, Trafimow, Hunt, & Sandry, 2010), business and management (Anderson & Thompson, 2004), and applied settings (Dixon & Wickens, 2006; Rice & McCarley, 2011). On the other hand, the trust relationship impact differs in academic areas. For political studies, the presence of trust leads to institutional stability and advances shared norms to facilitate human cooperation and to expand the trust in the greater culture (Doney & Cannon, 1998; Hardin, 2001). For the economics, trust maximizes personal benefit (Coleman, 1990; Williamson, 1985). For the sociology, trust increases cooperation through social norms and simplifies unknowns (Giddens, 1990; Luhmann, 2000).

Kollock (1994) described trust as the instrument or tool by which people steer social connections when other people's behaviors or expectations are unclear. Trust also improves communicating skills (Deutsch, 1973; Holmes & Rempel, 1989) and by improved communication skills Burt and Kenz (1995), and Chwe (1999) claimed that trust also escalates cooperation among the sides. "Trust makes interactions easy. Supervisors and subordinates can coordinate their work efforts more effectively in the context of mutual trust. Likewise, international relations can progress rather than stall or regress when parties trust each other" (Lount, 2010, p. 420).

Lewicki and Wiethoff (2000) defined trust as "an individual's belief in, and willingness to act on the basis of, the words, actions, and decisions of another" (p. 87). In addition, trust contains three different elements, in which the ability to trust others was established as one of those three elements. Those are personality, set of rules and norms, and experiences within a relationship. Lewicki and Wiethoff (2000) claimed that trust appears in professional and personal areas. In professional areas, individuals try to reach some objectives, and in personal areas individuals deal with social and emotional relationships. Also according to these researchers, trust is positive expectations and distrust means confident negative expectations.

Nobel laureate Arrow (1974) called trust "a lubricant for social systems" (p. 23). A consumer trusts that purchased goods will work as promised; a manager trusts that a new employee will be dependable; and an investor trusts that corporate accountants will report honest figures. But this was not clear enough, so to further elaborate, Evans and Krueger (2011) asked what trust was. According to a widely accepted definition, trust is "a psychological state comprising the intention to accept vulnerability based upon the positive expectations of the intentions or behavior of another" (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395). Actually trust is not complicated; it requires an exchange between trustor and trustee (agents). In the literature, trustee (agent) refers to institutions, individuals, machines, or organizations.

An attitude from one person to another person is called general trust. General trust advances cooperation between two people (Rothstein, 2005), and

stipulates some relational concerns such as communication and reputation (Poteete, Janssen, & Ostrom, 2010). General trust can be considered as the mental aspect and simply taken to be an expectation about how the other side will choose (Deutsch, 1973; Deutsch, 1958). However, general trust is a complex psychological state, which involves the cognitive and affective domains between the sides (Acedo-Carmona & Gomilia, 2014).

Rotter (1971) defines interpersonal trust as the individual's expectancy that relies on the word of another individual. According to McAllister (1995), interpersonal trust has cognition and affect-based components. Lewis and Weigert (1985) were the first to claim the existence of those components of trust; however, McAllister (1995) first indicated with experimental evidence that trust had two components, namely cognition-based and affect-based (Ergeneli, Ari, & Metin, 2007). McAllister (1995) defined that an individual's reliability, dependability, and competency beliefs are related with cognition-based trust. On the other hand, a relationship's deep emotional issues are related with affect-based trust.

Lee and See (2004) define the trust as "the attitude that an agent will help achieve an individual's goals in a situation characterized by uncertainty and vulnerability"(p. 52). For this definition, trust can be a person or a system that interfaces with the earth in the interest of the individuals. They claimed that substantial research studies have shown that a trusting attitude is vital in mediating how people depend on each other (Deutsch, 1958; Rempel, Holmes, & Zanna, 1985; Ross & LaCroix, 1996; Rotter, 1967). Sheridan (1975) and

Sheridan and Hennessy (1984) claimed that trust not only mediates relationships between people, it may also mediate the relationship between people and systems, like automation.

Lee and See (2004) also proposed that an intereset in trust has intensely increased during the last five years and many people have recognized its significance in advancing cooperation. One of the reasons that the interest in trust has been increasing is the developing cognitive complexity of organizations and their interactions. Trust is supposed to be less in well-organized structures or in the structures that have no or less ambigiuity (Moorman, Deshpande, & Zaltman, 1993). Kramer (1999) said that when direct surveillance becomes unfeasible, trust supplants supervision. Trust also lessens others' response ambiguity by guiding proper reliance and establishing collective advantages (Baba, 1999; Ostrom, 1998).

Feelings and behaviors that depend on thoughts have a major effect on trusting behavior. Lee and See (2004) claimed that those particular thoughts might be a form of analogical and analytical process. Analogical thoughts progressions have effect on social norm and others' opinions, on the other hand analytic process is more rational and concrete assessments of other person's characteristic features.

It should not be forgotten that when humans meet one another, automatic trust judgments are performed. Hoff and Bashir (2015) said these kinds of snap judgments are mostly accurate to evaluate trustworthiness. In order to evaluate trustworthiness, Engell, Haxby, and Todorov (2007) used

functional magnetic resonance imaging (FMRI) to show that the amygdala (a portion of the brain located in the medial temporal lobe) is utilized during rapid evaluations of the trustworthiness of human faces. In their experiment, subjects' amygdala responses increased as they were presented faced that had previously been rated as less trustworthy.

Hoff and Bashir (2015) also made a literature review from January 2002 through June 2013 and they identified 101 empirical papers about the trust topic, consisting of 127 separate studies. Their analysis found any given operator's trust in an automated system was an accumulation of the operator's trusting tendencies, the situation, and the operator's perceptions of the system.

Social psychologists have investigated how the trust concept is established, kept, and reestablished when it gets down (Lount, Zhong, Sivanathan, & Murnigham, 2008). Tendency to trust or distrust differs among individuals, and it depends on "general inclination to trust other people" (Kramer, 1996, p.569). Studies show that interactional histories between parties facilitate decision-making about individuals' willingness to engage in trusting behavior (Kramer, 1999). They also have been trying to separate personal trust and impersonal (generalized) trust (Conviser, 1973). Bjornskov (2006) and Freitag and Tranmuller (2009) defined generalized trust as a general disposition, trust related personality differences, and former knowledge.

Jones and George (1998), believed that as time goes on, trust grows and changes. Trust broadly could be separated into two distinct bases: conditional trust and unconditional trust. Conditional trust evolves as a result of

interactionism. Researchers have considered conditional trust as a knowledge-based trust that relies on positive expectation of other parties (Jones & George, 1998; Lewicki & Bunker, 1995; Shapiro, Sheppard, & Cheraskin, 1992; Sheppard & Tuchinsky, 1996). "Unconditional trust, however, characterizes an experience of faith that starts when individuals abandon the pretense of suspending belief, because shared values now structure the social status and become the primary vehicle through which those individuals experience trust" (Jones & George, 1996, p.536). Unconditional trust is a function of repeated behavioral interactionism between parties just like historically-based trust (Kramer, 1999; Jones & George, 1996).

Tam, Hewstone, Kenworthy and Cairns,(2009) analyzed a North Ireland political struggle and this analysis discovered that trust was a very important instrument to resolve the struggle among the groups. The research showed that an established trust increased positive attitudes and decreased negative attitudes among the group members (Rice, Richardson, & Kraemer, 2014).

To advance the idea of trust as an exchange among people further, Blau (1964) and Homans' (1961) social exchange theory was used. More particularly, to describe human interaction, from behavioral psychology perspective, reward and costs concepts, were used. From economy area and for economy perspective, resource concept was used. Social exchange means when a human offers some benefits to another one with the expectancy that the benefactor will at some later date reciprocate. According to social exchange theories of trust, people always evaluate potential gains and loses during an

exchange (Thibaut & Kelley, 1959). During those exchanges, trust decreases human's defenses for the sake of long-term goals (Scanzoni, 1979). So the presence of trust reduces the need for formal structures, control mechanisms, and explicit contracts (Macauley, 1963; Powell, 1990; Williamson, 1975).

Trust in organizations. Organizational trust has been evaluated from different perspectives. For example, from a psychological perspective, Rotter (1967) defined trust as "a generalized expectancy held by an individual or group that the word, promise, verbal, or written statement of another individual or group can be relied upon" (p. 444). Social psychologists took a state-based view of trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control the party" (Mayer, 1995, p. 712). Economists (Dasgupta, 1998) adopted a mathematical-based cost-benefit approach to trust as regulating fair behavior.

Anderson and Narus (1990) defined the organizational trust as "the firm's belief that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm"(p. 45). Trust is also a basic coordination tool in interorganizational relations (Bachmann & Zaheer, 2008) and lack of trust is perceived as a barrier to both domestic and international cooperation (Danik & Lewandowska, 2013).

Bhattacharya, Devinney, and Pillutla (1998) synthesized micro- and macro- approaches and defined trust as "an expectancy of positive (or

nonnegative) outcomes that one can receive based on the expected action of another party in an interaction characterized by uncertainty" (p. 462). All those approaches and evolutions have a common denominator that antecedent conditions are necessary for trust-based behavioral orientations to appear. Agarwall (2013) underlined those two conditions as uncertainty and vulnerability.

Agarwall (2013) also claimed that a state-based definition of trust in organizations is distinct from an interpersonal view of trust (Rotter, 1967) and from an economical, transaction-based trust (Das & Teng, 1998) in two key ways. First, a state-based definition of organizational trust specifies the boundary condition as the relationship between the trustor and the trustee; and second, it examines the influence of the organizational context on the development of trust (Mayer, Davis, & Schoorman, 1995). Rousseau et al. (1998) provide a cross-disciplinary definition of state-based trust as a "psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (p. 395) and integrates most trust-based theorizing in organizational contexts (Ellis, Shockley-Zalabak, 2001; Mayer et al, 1995).

The need to trust suggests a condition of inadequate information between two sides that plan to do a business exchange (Johnson & Grayson, 2005). Consequently, trust is key for the client in exchange circumstances because of decreasing the apparent danger of the aftereffects of the services (Laroche, McDougall, Bergeron, & Yang, 2004). The variety of services

implies that the traveler, in the event that the client doesn't have data and past experience, confronts the ambiguity of the consequence of the experience (Laeequddin & Serdana, 2010). Under this circumstance the trust concepts automatically became the significant part of the customer and service relationship (Forgas, Palau, Sanchez, & Caplliure, 2014).

Garbarino and Johnson (1999) and Morgan and Hunt (1994) and number of other authors believed that trust is a factor that determines customer loyalty. Kramer and Tyler (1996) pointed that trust is important in customer relationship for several reasons. The most important one was that trust decreases the low-cost air carrier clients' perceived risk.

Kath, Magley and Marmet (2010) developed a model, which centered organizational trust on and looked for the mediating relationship with safety climate and organizational outcome. The result of the research indicated support for trust mediating the relationship between safety climate and organizational outcomes; further, the relationship between safety climate and trust was stronger within workgroups where safety was more relevant.

Trust also has been examined for web-based commerce (e-commerce). Gefen, Karahanna, and Straub (2003), McKnight, Choudhury, and Kacmar (2002), and Jarvenpaa, Tractinsk, and Vitale (2000) theorize trust as general beliefs about an online trader that the behavior is dependable. Former research that examines customers' trust in an online trader found that it depends on the retailer's website. Luhmann (1979) approaches trust from a system perspective and proposes that trust is affected by the functionality of the system; for web-

based commerce, it is particularly the website. Kumar (1996) thought that a user friendly, easily understood process can effectively create and foster trust in web-based commercial trade activities.

For public service trust perception, Park and Blenskinsopp (2011) claim that it is measured in terms of citizens' judgments. Those judgments mostly based on citizens' previous experiences. According to Park and Blenskinsopp (2011) the citizen considers that public service is trustable when the public service is reliable, honest, and competent. Welch (2005) discusses that when public services' administrative rules, standards, laws, and regulations advance, their trust perception also advances.

From the organization perspective, Rawlins (2008) defines the trust as "a collective judgment of one group that another group will be honest, meet commitments, and will not take advantage of others." (p. 5) Like Rawlins, Tschannen-Moran and Hoy (2000) also define trust as "one party's willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open" (p. 556).

When suppliers act in a manner that constructs consumer trust, the received risk with the particular service provider is likely diminished, empowering the purchaser to make confident guesses about the supplier's future acts (Mayer et. al, 1995; Morgan et. al, 1994). On the other hand, during crisis times, establishing or changing the organizational trust is essential and the upper management and authorities expect the customers to obey the organizational rules (Rousseau, 1998). In organizations, the pillar of

constructing an extensive trust depends on the leader's or management's efficient leadership cultures. "Trust is not readily formed when top executives and low-level employees share divergent realities grounded in asymmetries of power and privilege" (Calton, 1998, p.343).

Chen, Chen, and Tsung (2006) believed that institutional-based trust is tied to social structures and formal mechanisms. A common belief of institutional-based trust is a kind of guarantee that the operation or service will be realized as previously promised (Zucker, 1986). Reychay and Sharkie (2010) claim that organizational trust is a function of individuals' knowledge about management and employees and whether the trustee perceives a fair assessment. A number of studies have agreed that factors such as organizational policies, management values, rewards, psychological factors, motivational programs, and management, as well as employees' fairness have developed a more active trust in society and in the organization (Tan & Tan, 2000; Calton, 1998) (Calton, 1998; Connell, Ferres, & Travaglione, 2003; Reychav & Sharkie, 2010; Tan & Tan, 2000).

Moreover, Ganesan (1994) revealed that particular investments improved institutional-based trust between service provider and customers. For example, the tangible rewards, like discounting and membership benefits, affect institutional-based trust. Customers will sense that the organization has an impartial structure of rewarding clients, thus this will set up an essential trust in the organization. Trust is a mediating variable in the service relationship,

because institutional-based trust can generate high-value service relationships and increase customer loyalty to the organization (Morgan & Hunt, 1994).

Chen, Chen, and Tsung (2006) also claimed that the interaction intensity can influence process-based trust because service providers can depend on regular consumers' previous behaviors and "this interaction can let customers estimate the value of service and accumulate their cognitive trust through frequent long-term contact" (Chen, Chen, & Tsung, 2006, p. 5).

Terpstra (2011) thinks that trust shares conceptual similarity with affect. Poortinga and Pidgeon (2005) suggest that trust and affect share similarities because they reflect more general attitudes toward risk. Affective responses are created quickly and automatically and are lived as a feeling state, describing whether something is perceived as "good" or "bad." (Slovic, Finucane, Peters, & MacGregor, 2007) Thus, "both trust and affect reduce the complexity of risk judgments because neither requires a consideration of all of the pros and cons related to the risks." (Terpstra, 2011, p. 1660)

Safety

Transportation safety. "Transportation safety is concerned with the protection of life and goods through regulation, supervision and technology development of all modes of transportation" (Marquez, Cantillo, & Arellana, 2014, p. 46). Former passenger quality of service perception research found that trip frequency had an impact. Later, after being asked to consider all the other factors, safety became more important than trip frequency. (Ona, Ona, & Calvo, 2012).

Although nearly all people such as scientists, transport designers, politicians, and policy makers have been working on transportation safety improvements across all transportation modes, the level of near miss events is still at an unacceptably high level. For example, within road transport, every year over a million people are known to die on the world's roads (World Health Organization, 2004). The former United States Secretary of Transportation, the Honorable Rodney Slater, issued the clarion call, "Safety is our North Star." This statement in its simplicity still serves well to highlight the criticality and need for direction for United States (U.S.) transportation systems (Misener, 2007).

According to Department of Transportation (DOT) press releases, mobility and safety challenges continue to be a problem for the U.S. transportation system. Various accident prevention strategies have been established, and Intelligent Transportation Systems (ITS) are some of them. The ITS Joint program Office (2011) provided a proven set of strategies for addressing the challenges of assuring safety and reducing congestion. Safety is measured through changes in crash rates or other surrogate measures such as vehicle speeds, traffic conflicts, or traffic law violations.

At this point, Safety Management Systems (SMS) also appear to be a significant safety component for transportation, as well as lots of industry branches. The most important purpose of an SMS program is to anticipate hazardous situations before they become accidents or incidents and to protect against human error (Antonsen, 2009; Dekker, 2003; Dien, 1998). Wold and

Laumann (2015) said that an SMS is mainly structured at the upper management level and distributed to the lower levels, and "at the lower levels, it must be interpreted order to make sense. There is no guarantee that it will be interpreted as intended" (p. 24).

Wold and Laumann (2015) conducted a research to analyze how a safety management system can be used as a communication tool to improve any area's safety standards. They revealed that most of the workers believe in safety measurement but they do not understand how a safety management system is supposed to ensure the safety of a system. In other words, they consider safety management systems less important. Dekker (2003) underlines how safety understanding is important among the workers by saying safety is a result of "people being skillful at judging when (and when not) and how to adapt procedures to local circumstances. In this respect, applying and adapting procedures in good judgment can be incorporated as part of the workers' professional identity to improve safety" (p. 235).

Aviation safety. According to the International Air Transport Association (IATA), the 2014 global jet accident rate (measured in hull losses per 1 million flights) was 0.23, which was the lowest rate in history and the equivalent of one accident for every 4.4 million flights. This was an improvement over 2013 when the global hull loss rate stood at 0.41 (an average of one accident every 2.4 million flights) and also an improvement over the five-year rate (2009-2013) of 0.58 hull loss accidents per million flights jet (IATA, 2015).

System Safety was conceptualized by the United States (U.S.) aerospace industry in the late 1940s (Vincoli, 1993). In order to detect operational hazards, aerospace engineers applied a System Safety approach. Following the application, System Safety experts supplied potential solutions to prevent potential risk and hazards before they became a mishap (Malasky, 1982; Roland & Moriaty, 1990).

The Federal Aviation Administration (FAA) let the researcher study the aviation system and the System Safety Office guided those studies. As a result of those studies, the FAA System Safety office introduced the aviation safety concept to the aviation domain and also the FAA issued an order to "incorporate a risk management process for all potential high consequence decisions" (FAA, 1998, p. 1). At the same time with the order, the FAA also provided a manual of System Risk Management and recommended "tools" of System Safety to all U.S.-based airlines.

In addition, different data collection instruments, such as voluntary basis reporting systems, like Air Transportation Oversight System (ATOS), FAA Safety Reporting System and Database (SRSD), NASA Aviation Safety Reporting System (ASRS), Flight Operational Quality Assurance (FOQA), Air Carrier Operations System Model (ACOSM), and Aviation Safety Action Program (ASAP) have also interconnected to risk management processes. The ultimate goal of those tools and conducting an accident investigation is to prevent reoccurrence of similar accidents and to make operations safer system-wide. Particularly, based on the accident investigation findings, the "lesson

learned" becomes a genuine part of the safety database. The "learned lessons" later become very significant risk factors for the risk management systems and safety management systems.

Kumamoto and Henley (1996) proposed an approach that includes the concept that usually safety consideration depends on the involved systems. As an example, for technical systems, the risk is the probability of failure of one of the subsystems that leads to hazard or undesired consequences. Bahr (1997) considered safety risk as a combination of the probability or frequency of occurrence and the magnitude of consequences or severity of a hazardous event.

Aviation professionals have been conducting safety improvements for many years. All those improvements have been established upon different developments such as technological, avionics, or even engine developments. Improvement in safety has come from many sources over the years. Technological improvements in aircraft, avionics, and engines have contributed to the betterment of the aviation safety record. Much of the aviation safety literature indicates these developments' roots in engineering and technology (Rodrigez & Cusick, 2012; Stolzer, Halford, & Goglia). Oster, Strong, and Zorn (2013) claim that "another major contributor to the improved safety record can be traced to the careful investigation of past accidents to determine what led to the accidents and what needs to be done to prevent such events from occurring again" (p. 149).

Aurino (2000) claims that the main logic behind the monitoring and reporting systems is prevention by control; therefore, because the overall

system is imperfect, it should be monitored. Aurino (2000) thought that "monitoring and reporting systems seek to anticipate the status of known markers of the system's resistance to hazards in order to strengthen the system's design and defenses" (p. 957) . Monitoring and reporting systems employ a proactive approach because the systems work a priori, exercise prevention by control, and focus on the process regardless of the outcome (Aurino, 2000). Woods, Johannesen, Cook, and Sarter (1994) also agree with Aurino by saying that the accident investigation process works backward and focuses on the outcomes than goes backward by structuring the reaction.

However, a change in safety paradigms and safety prevention strategies will not be possible unless the experts recognize human factors issues (Aurino, 2000). Hawkins (2007) examined human error and found three basic tenets. The tenets summarized that every individual can and will make an error and the error's origin might be fundamentally different; even though the origins of the errors are similar, the consequences may be totally different.

Therefore, in order to perform noticeable aviation safety improvements, the fundamental focus point should be on the human operator (i.e., aircrew on the flight) and those involved with the safe conduct of flight (e.g., mechanics, supervisors, air traffic controllers on the ground) instead of more traditional areas like the aircraft itself (Shappell & Wiegmann, 2009).

Human errors cause aviation safety occurrences, so understanding the root causes of errors is very important. Human factors experts' main scopes are to discover methods for improving aviation safety and efficiency as well as

reducing the costs. Dismukes (2010) claims that those human factors experts should have deep and veritical understanding of the nature and context of human error in order to increase aviation safety. Wiegmann and Shappell (2003) made a close analysis of recent aviation mishaps and the results revealed that around 70% to 80% of all aviation mishaps are caused by human error.

   Safety culture. In accident investigation analysis, the safety culture concept emerged after the 1986 Chernobyl disaster. The International Atomic Energy (IAE) and the Organization for Economic Cooperation and Development (OECD) Agencies defined the "poor safety culture" concept as a contributing factor of Chernobyl disaster (Cox & Flin, 1998; Mearns & Flin, 1999; Pidgeon, 1998). After the Chernobyl disaster, the concept of a safety culture has been discussed in the process of analyzing accidents and system failures, such as the King's Cross Underground fire in London, the Piper Alpha oil platform explosion in the North Sea (Cox and Flin 1998; Pidgeon 1998), the crash of Continental Express Flight 2574 (Meshkati, 1999), the Columbia Space Shuttle accident (CAIB 2003), and the explosion at the British Petroleum refinery in Texas City (CSB 2005). Those areas usually accepted as high-risk areas, but other ordinary area organizations have started to explore the expression of the safety culture concept in their areas, such as marketing (DeJoy, Schaffer, Wilson, Vandenberg, & Butts, 2004). Safety culture is not sufficient to determine the safety of an overall system (Smith, Huang, Ho, & Chen, 2006), but it plays a significant role in forcing people to act safely (Wiegmann, Zhang, Thaden, Sharma, & Mitchell, 2002).

So, what does safety culture mean? There are a number of definitions of safety culture but most of them have some commonalities. Wiegmann et al. (2002) formulated the definition of safety culture as the following:

Safety culture is the enduring value and priority placed

on worker and public safety by everyone in every group

at every level of an organization. It refers to the extent to

which individuals and groups will commit to personal

responsibility for safety, act to preserve, enhance and

communicate safety concerns, strive to actively learn,

adapt and modify (both individual and organizational)

behavior based on lessons learned from mistakes, and be

rewarded in a manner consistent with these values. (p.

115).

The FAA (2015) defines the safety culture concept in its Advisory Circular 120-92B as follows:

Cultures are the product of the values and actions of the

organization's leadership as well as the results of

organizational learning. Cultures are not really "created" or

"implemented;" they emerge over time and as a result of

experience. Organizations cannot simply purchase a software

program, produce a set of posters filled with buzzwords,

require their people to attend an hour of slide presentations,

and instantly install an effective SMS. As with the

development of any skill, it takes time, practice and repetition,

the appropriate attitude, a cohesive approach, and constant

coaching from involved mentors. (p. 3).

As mentioned before, there is no agreement on the definition of safety

culture. There is one more concept that triggers the same thoughts, safety

climate. The safety climate concept was first highlighted by (Zohar, 1980) but

there was no agreement on the definition. But Wiegmann et al. (2000)

combined the definitions of safety climate as:

Safety climate is the temporal state measure of safety culture, subject to

commonalties ties among individual perceptions of the organization. It is

therefore situational based, refers to the perceived state of safety at a

particular place at a particular time, is relatively unstable, and subject to

change depending on the features of the current environment or

prevailing conditions (p. 116).

The differences between those two terms seem to be clear. Wiegmann et

al. (2000) defines the difference as "safety culture is commonly viewed as an

enduring characteristic that has consistent posture with critical safety issues.

Safety climate is viewed as a temporary state of an organization that is subject

to change depending operational or economic circumstances" (p. 116).

However, in the literature, a debate has been continuing about the

definition of safety climate and safety culture concepts. Mearns and Flin (1990)

made a good snapshot about the difference between these concepts as:

Safety climate best describes employees' perceptions,

attitudes, and beliefs about risk and safety, typically measured

by questionnaire surveys providing a "snapshot" of the current

state of safety. Safety culture is a more complex and enduring

trait reflecting fundamental values, norms, assumptions and

expectations, which to some extent reside in societal culture.

(Mearns & Flin, 1999, p. 5).

To put them all together, those definitions combine key issues such as

personal commitment to safety, responsibility, communication, and learned

experiences that are influenced by upper-level management and personal

behavior (Wiegmann, Zhang, Thaden, Gibbons, & Sharma, 2004). "Personal

behavior can be influenced by circumstantial factors that elicit psychological

reactions (i.e., states), such as anxiety or anger, as well as by enduring

personality characteristics (i.e., traits), such as introversion/extroversion"

(Wiegmann et al., 2002, p. 10).

Since 2010, aviation authorities have mandated the aviation

organizations to establish and implement a positive and proactive safety culture

that is based on shared beliefs, assumptions, and values (Schwarz & Kallus,

2015). Martyka and Lebecki (2014) claimed that an organizations' safety

culture position is key to maintaining a state of safety; in other words, a poor

safety culture may lead to public health problems or occupational health

problems, such as in the Indian Bhopal disaster, Japan Kukishima disaser and

Chernobyl disaster.

Stoop and Dekker (2012) suggested, "safety is a difficult performance parameter to measure accurately due to its stochastic nature . . . safety is an emergent property, which is difficult to express in quantifiable parameters, such as the frequency and severity of accidents, incidents and occupational diseases" (p. 1428). Strauch (2015) argued that safety culture might be observable but some elements of safety cultures are not tangible and observable such as behavior and commitment. At this point, Lofquist (2010) observed, "academic contributions have increased our understanding of the underlying organizational dynamics of how safe systems contribute to unacceptable outcomes, but all of the cited contributions fall short of defining a true systems perspective for measuring safety as a process" (p. 1521-1522).

Krause (2001) generated a model by taking Schein's (1990) organizational culture theory as reference and claimed that a person's safety culture is a guide to the right way of acting, feeling, and behaving in relation to safety. Recently, for specific investigations or as a result of the investigations, many safety culture indicators were developed (Pidgeon, 1997; Stranks, 1994; Thaden, Wiegmann, & Shappell, 2006). Those indicators used three basic aspects of empirical sociology to measure safety culture (Martyka & Lebecki, 2014). Case studies that identified safety culture components were the most used one (Yin, 2009). Controversly, Reiman and Pietikainen (2012) claimed that using incidents as safety indicators neglects important details about the nature of safety. Second, a comparative investigation method compares safety culture components of industrial operations that have high accidental rate

(Cheyne, Cox, Olivers, & Tomas, 1998). Last, psychometric investigations are becoming a popular method in identifying characteristics of safety culture (Health and Safety Executive (HSE), 1997).

Antonsen (2009) used ethnographic measures to observe safety within an offshore drilling organization. A questionnaire was administrated to the workers both before and after an operational accident. After in-depth interviews conducted with more than 150 workers, he found that the questionnaire failed to detect safety issues that were identified after the accident.

Thaden and Gibbons (2008) think that lack of a well-defined information sharing research comminity is a safety culture/climate research challenge. "While some culture/climate research has been widely disseminated, much of it has been confined to technical reports and small industry-specific journals, offering useful descriptive or diagnostic information for the participating organizations but contributing little to a broad theory" (p. 10). Mengolini and Debarberis (2007) also agreed about the lack of shared and validated definition and assessment of safety culture.

Reimann and Rollenghan (2014) believe that safety culture concept's new contributions to the safety management system never really integrated with classical engineering principles and concepts. They believe that lack of this integration might raise a belief that safety culture only means a systematic view of safety. They believe that the integration is necessary for the development of a more genuine systems-oriented safety view. However, they underlined that this belief has not been backed up by theoretical and empirical study.

Personal safety. Dr. Edward P. Warner, future president of the

International Civil Aviation Organization (ICAO), writing as Professor of

Aeronautics, Massachusetts Institute of Technology, in 1922, commented that:

> Since it is the fact that the fear of accident is a strong deterrent
>
> influence from the use of aircraft, it is very important that the
>
> real facts in the matter should not only be determined in such a
>
> way as to be available to the technical world, but also that they
>
> should be laid before the non-flying public in all possible
>
> completeness in order that they may furnish the ground for
>
> each individual to make his own decision as to the wisdom of
>
> flight for his own purposes.

Seabra, Dolnicar, Abrantes, and Kastenholtz (2013) conducted a study

to find the predictors of risk perceptions of international travelers during the

destination selection process and they revealed that the type of risk, news media

coverage, previous tourist experience, as well as psychographic and

demographic characteristics of tourists have a great impact on the destination

determination process. Fletcher and Morakabati (2008) confirmed this finding

that travelers' individual risk perception has a great impact on touristic

destination demand.

On the other hand, individuals prefer near country destinations by

knowing their realities with a lower risk perception (O'Connor, Stafford, &

Gallagher, 2008). As well as the destination, humans also want to feel safe

about the transportation mode and route. Moreover, "any form of transport must

achieve a safety record which is good enough to remove from its passengers and potential passengers the burden of fear. This varies widely from individual to individual, but with all of us it is essential" (Wheatcroft, 1964, p. 49).

Quiroga (1990) found that personal safety was the most important reason for Latin Americans to participate in Europe package tours for travelers over 65, while it was the least important for respondents under 26 years of age. But Han (2005) said the opposite; safety is not only an important factor to seniors, but also to travelers of all age groups. Moreover, safety appears to be relatively more important in selecting travel style than motivation.

Marques et al. (2014) made an analysis to find out the influences that perceptions of safety and comfort of the service have on the choice of river transport by passengers. They found a relation between waterway transportation choice and safety/comfort perceptions. They also revealed that senior passengers give less importance to safety, while comfort is most valued by young workers and highly educated passengers. Delays have a negative effect on the attractiveness of river transport.

Effect and Emotion

Definition and theoretical description of effect is a source of disagreement in the literature (Ekman & Davidson, 1994). Effect is named one of the three psychological faculties in psychology. The others are cognition and conation (Hilgard, 1980). Some of those effect approaches are considered that influence thoughts and behaviors (Forgas, 2008). Batson, Shaw, and Oleson (1992) defined effect as a positive and negative feeling in response to a stimulus. Custers and Aarts (2005) defined effect as a feeling state. Russell (2003) defined the effect as "a neurophysiological state that is consciously accepted as a simple, non-reflective feeling that is an integral blend of hedonic (pleasuredispleasure) and arousal (sleepy-activated) values" (p. 147).

Although some theorists do not accept that effect and emotion directly effect decision making, Maise (2014) thinks that effect and emotion significantly assist in decision making and judgment. A number of researchers think that effect influences decision-making (Angie, Connelly, Waples, & Kligyte, 2011; Dickert, 2010), motivation (Marien, Aarts, & Custers, 2012) and attitudes (Huntsinger, 2012). Effect also influences trust calibration. While positive affect increases a person's trust, negative affect decreases the trust (Dunn & Schweitzer, 2005).

General effect. General affect is associated with activation of the appetitive system, whereas negatively valences effects are associated with the defensive system (Lang, 1995; Lang, Bradley, & Cuthbert, 1990).

Positive effect. Positive effect is associated with social activities and pleasant events. "Positive effect lies on its own continuum, ranging from high levels of positive effect to low levels. High levels of positive effect are characterized by factors such as high energy, determination, full concentration, and involvement in social activities" (Russel, 2007, p. 11). Positive effect "reflects the extent to which a person feels enthusiastic, active, and alert" (Watson et al, 1988, p. 1063). Positive effect includes conscious feelings such as pleasure, enthusiasm, cheerfulness, confidence, and happiness (Snyder & McCullough, 2000; Watson, 2002; Watson, Clark, & Tellegen, 1988).

In the literature, there are many studies that show positive effect provides different advantages for psychological and social areas. Nelson and Sim (2014) believes postive effect provides creative, flexible, and alternative approaches to solving social problems. According to Lyubomirsky, King, and Diener (2002), positive effect is also an indicator of good mental health. Vosburg (1998) believes that positive effect increases the ability of idea production. Frederickson and Branigan (2005) found a different advantage of positive effect, which is the ability of produce alternative behavioral choices.

Isen (1987) demonstrated that positive effect promotes helping and generosity and prevents aggression. Positive effect increases cooperation in an organization (Baron R. A., 1990) and it leads a person to behave as a part of organizational culture (Williams & Shiaw, 1999). Lyubomirsky et al. (2005) claimed "positive effect includes confidence, optimism, and self-efficacy; likability and positive construal of others; sociability, activity, and energy;

prosocial behavior; immunity and physical well-being; effective coping with challenge and stress; and originality and flexibility" (p. 804).

Estrada, Isen, and Young (1997) conducted research to analyze the complex medical decision mechanism of clinical physicians. The physicians who had positive affective state made efficient integration of relevant information and made correct clinical judgments sooner than the physicians in the control group. In another study of risk taking and positive effect, people under positive effect gambled more than those in a control condition when the situation involved a low risk (when the probability of winning on the bet was high), but they gambled less than the control group on a high-risk bet (Isen & Patrick, 1983).

Likewise, positive effect helps people to think flexibly and by doing so, people can establish an efficient relationship between future outcomes and present situations (Aspinwall, 1998; Isen & Erez, 2007; Taylor, Pham, Rivkin, & Armor, 1998). Positive effect also leads people to make a good and persistent connection between their effort and outcomes (Erez & Isen, 2002). Bandura (1997) thinks that positive effect increases self-efficacy.

The Broaden and Build Theory (Fredrickson, 2001; Fredrickson & Joiner, 2002) accepts that positive effect experiences broaden the ability to think and take action through encouraging processes. As time goes on, "this broadening enhances personal resources, such as greater optimism and better relationships. Enhanced personal resources in turn lead to better outcomes across various realms of life" (Schutte, 2014, p. 66).

Negative effect. Negative effect is "a general dimension of subjective distress and unpleasurable engagement" (Watson et al, 1988, p. 1063). Maxwell and Kover (2003) think that there is inconsistency about the definition of negative effect in the literature. However, they think the common denominator of negative effect definitiond is an avoidance response. Clark and Isen (1982) stated that there is not much difference between negative effect and postive effect, but sometimes negative effect is diametrically the opposite of positive effect. Researching negative effect in retailing is difficult because the results are inconsistent. "People in negative states may tend to see the negative side of things and be more pessimistic; but, the negative state may stimulate attempts to change or eliminate the unpleasantness, and these attempts may involve engaging in rather positive behavior" (Isen, 1984, p. 197).

Negative effect also causes pain and many researchers have studied the negative effect and pain relationship. Tan, Jensen, Thornby, and Sloan (2008) think that pain and the negative effect connection may be mediated, at least partially, by pain's negative effect on brain functioning. The majority of pain experts have accepted that a negative effect like depression is also related with pain perception and experience (Banks & Kerns, 1996; Holzberg, Robinson, Geiser, & Gremillion, 1996). Anger is another state of negative effect with respect to pain. According to Henry (1986), anger might result from a perceived challenge of control appraisal. Wade, Price, Hamer, and Schwartz (1990) considered anger as a concomitant of depression.

Brainerd, Stein, Silveira, Rohenkohl, and Reyna (2008) investigated how negative effect caused false memories and they found out that remembering words that have a negative effect stimulates levels of false memory that are significantly higher than remembering neutral lists. This research confirmed the study on the same topic that was performed by Brainerd and Reyna (2005). Javaras, et al., (2012) also found that lower levels of negative effect are associated with greater levels of conscientiousness. Negative effect causes less careful persuasive material processing (Baron, Logan, Lilly, Inman, & Brennan, 1994).

Universal emotions. Ekman and Friesen (1971) saw New Guinean films taken by Sorenson and implemented a deep analysis showing that emotions (happiness, sadness, anger, fear, surprise, disgust) and facial muscular patterns have a position association. For their deep research, they selected two New Guinean sample groups. One of the sample groups included people who had no interaction with western cultures and could not speak English. The other sample group included people who had seen western culture movies and could speak English. The participants were presented the images of emotions (see Figure 1). Six emotions from Ekman and Friesen's (1971) work are represented here with images. These images were used by permission of the cartoonist who drew them, and were validated in a separate pilot study. They represent anger, disgust, fear, happiness, sadness and surprise.

The participants were asked to match the emotions. As a result, both group members matched the same facial expressions with the same emotions and they theorized that some emotions are universal.

Figure 1 The images of Ekman and Friesen's (1971) six universal emotions

Matsumoto (1990) said, "the universality of facial expressions of emotion is no longer debated in psychology" (p. 195). Izard (1971) wrote, "Emotion at one level is neuromuscular activity of the face" (p. 188). DePaulo (1992) wrote, "The fact that facial expressions of basic emotions are fundamentally the same across cultures is consistent with the position that there may be automatic links between the experiencing of the basic emotions and the expression of those emotions" (p. 205-206). "There is a distinctive pan cultural signal for each emotion. If there is no distinctive universal facial expression associated with a given state, which functions as a signal, I propose that we not call that state an emotion" (Ekman, 1984, p. 330).

The universality hypothesis proposes that six basic human emotions (happiness, surprise, fear, disgust, anger, and sadness) are expressed by using the same facial muscular movements across all cultures (Ekman, Sorenson, & Friesen, 1969; Ekman, Friesen, & Hagar, 1978). Waller, Cray, and Burrows (2008) made a research to investigate how the individuals are capable of

producing similar facial expressions and they found out that individuals' basic

facial muscles are not too different. All individuals have nearly the same type of

facial muscles to produce basic universal facial expressions because emotional

responses are the same in the face. The present findings are not readily

explained by a universality account of emotion recognition, even those that

admit some minor cultural variability.

Gendron, Roberson, Vyver, and Barret (2014) believed that

> Recent evidence indicates that Western perceptions (e.g., scowls
>
> as anger) depend on cues to U.S. emotion concepts embedded in
>
> experiments. Because such cues are standard features in methods
>
> used in cross-cultural experiments, we hypothesized that
>
> evidence of universality depends on this conceptual context. No
>
> single study has explicitly manipulated the presence versus
>
> absence of emotion concept knowledge in an emotion perception
>
> task and examined the consequence for emotion perception in
>
> both a Western sample and a sample from a remote cultural
>
> context. To manipulate the presence or absence of emotion
>
> concept information, we started with a relatively unconstrained
>
> perception task in which participants were asked to sort
>
> photographs of posed portrayals of emotion into piles. Our
>
> finding that the presumed universal pattern of emotion
>
> perception appears to be linguistically relative is consistent with
>
> the pattern of published results (p. 251-252).

Rice, Richardson, and Kraemer (2014) examined how emotion mediates distrust of persons with mental illness. To measure the mediation, participants were presented a description about target individual and then the "How does this make you feel?" question was asked based on a Likert scale instrument. As a result, the study revealed that affect had a strong mediating effect on the trust relationship.

Rice and Kramer (2015) made a study that aims to determine whether affect mediates the relationship between the type of water recycling projects and a person's preference toward the use of that airport. Two scenarios were presented to the participants about the airports, and they were asked to rate willingness to use the airport. The first scenario was usage of recycled water for sprinklers, and the second was usage of recycled water for drinking fountains. For the both studies, affect was a significant mediator, in particularly happiness and disgust were primary mediator affects.

Rice and Kramer (2015) conducted another study to investigate how the relationship between pilot configuration and willingness to fly might be mediated by different emotions. Two scenarios were presented to the participants about pilot configuration of aircraft, such as onboard pilot and remote pilot. The research showed that affect was a strong mediator; in particularly anger, fear, and happiness were the significant emotions.

Affect and trust. Lewicki, Tomlinson, and Gillespie (2006) claimed that trust is established on two distinct psychological progressions, which are cognition based trust and affect based trust. Dirks and Ferrin (2002) interpreted

McAllister's (1995) cognitive based and affect based trust categorization as "cognitive forms of trust reflect issues such as the reliability, integrity, honesty, and fairness of a referent. Affective forms of trust reflect a special relationship with the referent that may cause the referent to demonstrate concern about one's welfare" (p. 616).

The distinction between the two trust dimensions is based on the origin of trust. One may cognitively trust another because of objective reasons such as personal characteristics; the other one may affectively trust another due to the relationship between trustor and trustee.

Regarding affect-based trust, McAllister (1985) observed,

People make emotional investments in trust relationships, express genuine care and concern for the welfare of partners, believe in the intrinsic virtue of such relationships and believe that these sentiments are reciprocated (Pennings & Woiceshyn, 1987). Ultimately, the emotional ties linking individuals can provide the basis for trust (p. 26).

Lewis and Weigert (1985) considered trust as a social affect that helps in sense making about relationships and decision-making processes. In an organizational decision-making process, affect-based trust encourages organizational members to work for reaching organizational goals by more efficiently processing other worker's inputs (Parayatima & Dooleyb, 2009).

Trust is a concept that interacts with different emotions and assessments. This interaction sets the boundary of trust perception. Positive emotions are one

of the trust components on this interaction boundary. Emotions, mostly positive emotions, and a cognitive risk assessment process constitute an affectual trust (Young & Daniel, 2003). "Trust involves additional attributes grounded in caring and at least somewhat personal relationships. In part, psychologists agree, arguing that an entirely or partially emotion-free trust is more shallow and less enduring than is a richly emotional trust" (Lewicki & Bunker, 1996, p. 127).

Trustor's emotional attachment toward a trustee is a determinant of affective trust. Emotional attachments can color one's experience of trust and strongly influence how a person forms opinions about trustworthiness as well as how to display trust (Jones & George, 1998; Williams, 2001). "It is further suggested that factors contributing more to the formation of affective trust (i.e., relationship quality) will be contingent on the referent under consideration" (Yang, 2005, p. 25). As an example, if a person knows an employer of an organization and that person trusts the employer, he or she also will have trust in the organization due to their personal relationship.

Affect and safety. Dreisbach (2006) researched how positive affect modulates cognitive control of the brain and found that positive affect increases cognitive flexibility. Oliveira et al. (2009) combined this flexibility with Whittle, Alien, Lubman, and Yucel's (2006) claim. The claim was that individuals high in positive affect are more actively engaged in the world, show a predominant approach disposition and high reward sensitivity, and experience a more persistent positive mood. Oliveira et al. (2009) hypothesized that "those

participants high in positive affective trait would be more prone than low-positive affect participants to be engaged by the safety cues" (p. 870). As a result of their study, they concluded positive affect is a susceptibility to engage in a safety perspective, capturing contexual safety cues and processing them efficiently.

The emotional system is very important while people are evaluating risky options. In a risk evaluation process, decision making is dependent on affective evaluations of stimuli (Baumeister, Vohs, DeWall, & Zhang, 2007; Finucane, Alhakami, Slovic, & Johnson, 2000; Mellers, Schwarz, Ho, & Ritov, 1997; Slovic, Peters, Finucane, & MacGregor, 2005).

During risky and safety option decision making, different people may be treated differently because of their different feelings. In the current study, it is believed that at the time of survey response, people will make different safety and risky decisions due to their feeling differences. Raghunathan and Pham (1999) produced a sample scenario for feeling treatment differences that caused by affect differences. If a customer watches an anxiety provoking video before making a car selection decision, instead of selecting a safer car, the customer can select sportier or luxurious car.

Hsee and Rottenstreich (2004) found evidence that during an organizational management meeting, affect-rich presentations led the management to make less analytical evaluations than affect-poor presentations. The literature also has opposite opinions that affect has a limited role on decision making. "People' s choices may occasionally stem from affective

judgments that preclude a thorough evaluation of the options" (Shair, Simonson, & Tversky, 1993, p. 32).

Finucane et al., (2000) claimed that risk, safety, and benefit are linked in people's perceptions and judgments. While people make a decision between risky and safe options, they rely on emotions. Positive affect and negative affect guides the decision making process especially in time critical decisions. In a simple transportation example, for driving negative affect provokes risky and aggressive behavior, as measured by speeding and more lane wanderings (Dula & Geller, 2003).

Airline Accident Statistics

The number of accidents experienced annually was generally stable from 2009 to 2012, varying between 99 and 126 per year, resulting in an equivalently stable accident rate of approximately 4 accidents per million departures until 2012 when the rate dropped to 3.2 accidents per million departures (ICAO, 2014).

The global jet accident rate in 2014, measured in hull losses per 1 million flights, was 0.23—the equivalent of one major accident for every 4.4 million flights. That is the lowest rate in the history of aviation. Of 38 million flights, there were just 73 accidents in 38 million flights in 2014. Twelve resulted in fatal accidents, only three of which involved jet aircraft. On the other hand, 2014 will be remembered for the high number of passenger fatalities— 641 versus a five-year average of 571— and for two extraordinary and tragic

events involving MH 370 and MH 17 (IATA, 2015). In 2014, the world´s death toll in commercial air transport rose nearly four times over the 2013 numbers.

The world's new leading airline in terms of its safety record is Cathay Pacific from Hong Kong, followed by Emirates, EVA Air of Taiwan, and Air Canada. The safest airline in Europe is the Dutch KLM now in fifth, ahead of Air New Zealand and Qantas of Australia (JACDEC, 2014).

The following statistical data were taken from Wikipedia webpages. During the data collection phase, the survey instrument will provide the airline data to participants from Wikipedia Encyclopedia, which is a web based encyclopedia. In order to maintain the consistency, accident statistical data are taken from Wikipedia Online Encyclopedia.

Lufthansa airlines. Germany based Lufthansa was founded in 1951 and it is the largest airline in Europe, both in terms of overall passengers carried and fleet size when combined with its subsidiaries (Der Spiegel, 2012). It operates services to 18 domestic destinations and 197 international destinations in 78 countries across Africa, the Americas, Asia, and Europe, using a fleet of 615 aircraft. Lufthansa is one of the largest passenger airline fleets in the world when combined with its subsidiaries (Lufthansa, 2015). Since 1959, Lufthansa has experienced 7 fatal accidents and 1 non-fatal accident; 237 people lost their lives.

Turkish airlines. Turkish Airlines, the Istanbul, Turkey-based national flag carrier, was founded in 1933. As of February 2015, it operates scheduled services to 261 destinations in 108 countries. Turkish Airlines is the fourth-

largest carrier in the world by number of flight destinations. As of June 2015, the Turkish Airlines fleet consists of 275 passenger and 10 cargo aircraft. Turkish Airlines has experienced a total of 15 accidents of which 14 were fatal; 900 people lost their lives.

Gender Effects

Lippa (2005) made two distinction among gender difference theories, biologic theories and social–environmental theories.

Biologic theories focus on sex-linked biologic factors such as genes, prenatal and postnatal exposure to sex hormones, and sex differences in neural development and brain structure – all ultimately molded by biologic evolution. In contrast, social–environmental theories focus on cultural and social factors – e.g., the effects of gender stereotypes, gender-related self-concepts, socialization pressures, social learning, social roles, and status differences between the sexes (Lippa, 2010, p. 1099).

Evolutionary theory is one of the biggest biological approaches for gender differences. It proposes men and women have different reproductive natures and the genders have different reproductive traits (Buss, 2008; Geary, 2009). Lippa (2010) claimed that in males, "higher levels of aggressiveness, risk-taking, and status-seeking presumably evolved as sexually selected traits that fostered male dominance and helped ancestral men attract mates" (p. 1099). For females, "higher levels of nurturance, tender-mindedness, and people

orientation evolved as sexually selected traits that fostered women's success at rearing children" (p. 1099).

Social Role Theory (SRT) claims that the origin of gender differences is assigned roles for each individual in a society (Eagly, 1987). A feminist idea accepts the gender concept as "both a concept and a set of socially constructed relationships which are produced and reproduced through people's actions" (Biever, Fuentes, Cashion, & Franklin, 1998, p. 163). Research has demonstrated that social role affects gender bias, particularly when new roles are assigned (Richeson & Ambady, 2001). Gender roles are "socially shared expectations that apply to persons who occupy a certain social position or are members of a particular social category" (Eagly & Karau, 2002, p. 574). Social roles represent "consensual beliefs about the attributes of women and men" (Eagly & Karau, 2002, p. 574).

Gonzales-Mule, DeGeest, Kiersch, and Mount (2013) claimed that gender-based differences can be consistently seen between western and non-western cultures. They conducted a study at a U. S. mid-western university and revealed there are gender differences in personality traits, in particularly pleasantness and calmness. The research indicated female participants had statistically significant higher scores than male participants.

A laboratory experiment was conducted to find out whether gender difference is a general trait for the financial decision-making process. The results showed that females and males have different information processing ways, but regardless of high financial benefit and scenario familiarity, females

tend to choose a less risky option than male individuals (Powell & Ansic,
1997).

      Ragins and Winkel (2011) made a comprehensive literature review
about gender emotion effects:

> Men and women differ in both the experience and
>
> expression of emotion, although differences are more likely
>
> to be found in expression than in experience (Geer &
>
> Shields, 1996; LaFrance, Hecht, & Paluck, 2003).
>
> Researchers have found that women generally experience
>
> more intense and frequent emotions than men (Brody &
>
> Hall, Sex and emotion, 2000; Fujita, E, & Sandvik, 1991;
>
> Kelly & Hutson-Comeaux, 2000), and are more likely than
>
> men to report experiencing emotions associated with lack of
>
> power, such as fear, sadness, shame and guilt (Brody &
>
> Hall, Sex and emotion, 2000; Fischer, Mosquera, Vianen, &
>
> Manstead, 2004). In contrast, men are more likely to report
>
> experiencing emotions associated with power, such as anger
>
> and pride (Fischer & Jansz, 1995; Tiedens, 2001). In terms
>
> of expression, women are more likely than men to display
>
> all experienced emotions with the exception of anger
>
> (Brody & Hall, 2000). However, it is important to note that
>
> emotional expression is influenced by the social context
>
> (Brody, 1997; Kemper, 1978); men may express less

emotion because they are socialized not to display feelings

other than anger (Brody & Hall, 2000; Broverman, Vogel,

Broverman, Clarkson, & Rosenkrantz, 1972)(p. 379).

Fujita and Sandvik (1991) studied gender's affect intensity differences

with 100 U. S. people. They found women differ from men in the intensity of

their positive and negative emotions. There might be a gender bias, as males are

generally less willing to describe their phobias, though this is truer with social

phobias compared to situational phobias (Craske, 2003). Women frequently

report being as happy as men, bur women frequently report being depressed at

twice the rate that men do (Fujita & Sandvik, 1991).

Females generally consider males as more aggressive, arrogant,

competitive, coarse, cruel, dominant, independent, rude, and unemotional. On

the other hand, males generally consider females as more affectionate, anxious,

compassionate, dependent, emotional, gentle, sensitive, sentimental, and

submissive (Williams & Best, 1982). It is generally accepted that male

individuals have tendency for "thing oriented" activities like engineering and

repairing things. Females' tendencies are more "people oriented" activities like

nursing and counseling (Aros, Henly, & Curtis, 1998; Liben & Bigler, 2002;

Shinar, 1975).

Two groups of 2199 Australian participants and 6868 international

participants were assessed for the emotional gender differences. A self-

reporting instrument was used for data collection and the emotions were

affection, anger, contentment, fear, guilt, joy, pride, and sadness. In the

Australian group, statistically significant differences between the genders were found for the frequency of affection, anger, fear, joy, and sadness with females scoring higher. Males scored higher on pride. In the international group, significant gender differences for the frequency of affection, anger, contentment, fear, joy and sadness were found with females scoring higher than males. Gender differences in intensity were found for all of the emotions except pride (Brebner, 2003).

For transportation, travel time, cost, physical effort are crucial components but security is considered less for female travelers. Assault level, harrasment, fear and intimidation were more affected perceived risk factors for female travelers than for male travelers (Lynch & Atkins, 1988). Frequent male and female travellers had largely similar attitudes towards their business travel, although some of the interviews indicated that travel may be more stressful for women than for men (Casinowsky, 2013).

Cheng (2010) researched 412 Taiwani train passangers' anxiety by applying the Rasch model. He tried to find what factors affect anxiety and affect differences between female and male passengers. The empirical results indicated a strong level of difference of anxiety between female and male passangers. He found that female passangers had less anxiety for poor scheduling information and situation updates. Male passengers had a significantly lower level of anxiety for night time travels.

Each individual has different heterogeneous characteristics of fear of flying (Almen & Gerwen, 2013). As female individuals' age increases, their

fear of flying also increases. Fear of flying is a function of age for females, but not males (Frederickson, Annas, Fischer, & Wik, 1996). Female air passengers rate themselves as more scared of flying than male air passengers (Busscher, van Gerwen, Spinhoven, & de Geus, 2010). Males have fear of losing control, but females fear crashing and being stuck in a small space (Gerwen, Spinhoven, Diekstra, & Dyck, 1997).

Ekeberg, Fauske, and Berg-Hansen (2014) investigated flight anxiety among Norwegian air passengers. The study indicated that female passengers had significantly more fear than male passangers. Especially after becoming mothers, female passangers had more anxiety level than before the birth. The researchers provided an alternative explanation about gender anxiety level differences. They claimed that male passengers fly more frequently than female passengers and this may be a reason for male passengers' low level of anxiety.

Forgas, Palau, Sanchez, and Fandos (2013) analyzed moderating effects of gender on consumer's loyalty to an airline website. The researchers believed that online bookers' opinions about airline satisfaction and airline trust come from the airline website. They interviewed 1163 Iberia Airline passengers at the Barcelona airport. Participants were selected who had at least three flights with Iberia and had booked online. The results of the study indicated that unlike most of the literature, there was no significant moderating effect by gender differences.

Gures, Demirer, Aldemir, and Tayfur (2011) investigated national differences of passengers regarding their perceptions of Turkish airport safety.

There were 911 Turkish and 595 European participants involved in the research. The results indicated that European air passengers felt less safe than Turkish passengers and people flying more frequently felt less safe. The demographic features, such as age, gender, and educational level had no significant relationship with safety perception.

Country of Origin Effects

As mentioned above, emotion is a universal construct (Ekman & Friesen, 1971). However, some anthropologists believe that culture and country have a strong affect on emotional experience (Rosaldo, 1984; Lutz, 1988). Cultural background influences a human's willingness to trust (Hofstede, 1980). Lots of market and research studies have shown that consumers often base their purchasing decision on the manufacturer's country and economic, political, and cultural characteristics of the product's country of origin (Han, 1989; Johansson, 1989).

The most common definition of country of origin in the literature is a "perceptual set," which consists of different product related country associations (Hamzaoui-Ssoussi, 2010). Roth and Romeo (1992) found in the literature that country of origin relies on perceived economic development level.

Cordell (1992) conducted a study about country of origin perception. Participants were asked to evaluate different products that came from different countries. The participants positively evaluated industrialized countries' products, but less developed countries' products had negative evaluations such

as less qualified and unreliable. Cordell concluded that the country stereotypes
are applied to country products too. Stereotyping can be explained as consumer
reaction to country of origin information (Ahmed & d"Astous, 1995;
Maheswaran, 1994; Tse & Gorn, 1993).

> The effects of country of origin consumers' cognitive
> processes operate in two ways: the halo effect and the
> summary construct (Hong & Wyer, 1989). First, when
> consumers are not familiar with the product, COO [country of
> origin] acts as a "halo" that directly affects consumers' beliefs
> about these products (Ahmed, Johnson, Yang, & Fatt, 2004),
> which is known as the "halo effect." Second, when consumers
> are familiar with a product, a summary construct model
> operates in which consumers infer a country's image from its
> product information, which then indirectly influences brand
> attitudes. In both situations country of origin is used in the
> consumer decision-making process as an indicator of risk
> reduction and quality and defined as an external cue (Cilingir
> & Basfirinci, 2014, p. 286).

Johannsson (1989) found a strong correlation among images of a
country, companies, and brands. Fiske, Cuddy, Click, and Xu (2002) evaluated
the image of country concept from two dimensions, competence and warmth.
Because competence is based on mostly marketing. Similar to Fiske et al.
(2002), Xu, Leung, and Yan (2013) defined country warmth as "perception as

how much an individual sees a foreign country as well-intentioned, friendly, warm, and cooperative. This perception may derive from one's understanding of past and current political and economic relationship between foreign country and one's own country" (p.285). Teas and Agarwal (2000) claimed that when a consumer has no evidence to judge product or service, extrinsic cues become the grounds for the decision-making. Johansson et al. (1985) accepted country of origin as an extrinsic cue. If a consumer's country of origin perception is warm, the consumer considers the product as safe and harmless (Xu, Leung, & Yan, 2013).

Hinner (2010) studied the country-of-origin effect in the Chinese market and found that country of origin affects people's decision-making and perceptions of any kind of product or service. During international commerce, consumers rely on their positive and negative feelings about the country of the seller or manufacturer. The research concluded that "people decide to purchase from a specific country if that country has a positive association with the product and/or perceived product characteristic. If a country has either a negative association, then the consumer may not to purchase from that country" (p. 47).

The consumers who are living developing countries prefer imported products more than in-house manufactured materials. People believe imported materials are more qualified than their countries' products (Usuiner, 1996). Previous experiences and emotional states usually determine the effect of product, whether positive or negative (Gudykunst & Kim, 1997). Hamzaoui-

Ssoussi (2010) generalized about company perception and claimed "companies can generally capitalize on their country's favorably perceived capacity to design or manufacture a product category (India and tea) if their global country image is unfavorable, capitalize on the global country image, or both (Germany and cars, engineering)" (p. 317).

Brookshire and Yoon (2012) conducted a study to investigate consumers' price perception for multinational products. They provided U. S. and Chinese products to the participants. All the participants perceived that Chinese manufactured products are cheaper than U. S. manufactured ones and U.S. manufactured products have more sustainability. The researchers interpreted "this indicates that where raw materials were produced does matter to consumers' perceived prices, even if the country of manufacturing is the same" (p. 451).

In today's globalized world, airlines are becoming alternatives to each other. During an itinerary planning process, if a passenger has not used any of the available airlines, or have no intrinsic information about airlines, an airline's country of origin provides extrinsic information cues about flight services (Bilkey & Nes, 1982; Zhang & Sood, 2002). Papadopoulos (1992) advocates that "the higher the level of globalization, the greater the significance of product country image" (p. 17–18).

Cheng, Chen, Lai, and Li (2014) investigated the country of origin effect on eastern airlines. Without revealing the name of airline. 203 United States participants were presented airlines that originated in China, South Korea, and

Taiwan. China was presented as a developing country, and South Korea and Taiwan were presented as developed countries. Furthermore, to investigate the country of origin effect in detail, data about the people, technology, and political and economic numbers of each country were presented. The result of the study indicated that all four factors influenced the consumers' country of origin perception. In addition, researchers added "in a particular service setting, country image alone explains more than 61% to 71% of how consumers evaluate service quality without considering other extrinsic cues" (p. 7). The study also indicated that consumer age had no effect and participants avoided getting air service from a less developed country.

Cheng, Chen, Lai, and Li (2014) gave another example about the airline country of origin effect. In 2008, India's largest airline, Jet Airways, and United Arab Emirates airline Emirates launched a new flight network between their main base and San Fransico. Emirates had a growing passenger market, but due to a consumer recognition problem, Jet Airways terminated flights after just eight months from the first flight. The researchers saw Jet Airways' failure as an information processing problem. They believed that San Francisco people used technologic domains to evaluate Jet Airways' service quality, and because of it's country of origin is considered less developed, consumers did not demand to prefer.

Hoenen, Karunaratna, and Quester (2005) investigated the country of origin effects of Singapore Airlines and Lufthansa Airlines, and the general country of origin effects of participants. In Singapore, 334 participants were

asked to rate friendliness, timeliness, reasonable pricing, helpfulness, pleasantness, cleanliness, and safety standards of the two international airlines. The vast majority of participants (73.8%) were Singaporean, 12.3% were Indonesian, 5.6% were Malaysian, and only 1.2% were European. The results of this study indicated that there was a strong halo effect for international airlines and the majority of people rated Singapore Airlines more favorably.

Hoenen, Karunaratna, and Quester (2005) claimed that airlines are also using the country of origin effect in their advertisements to increase international recognition. They made a content analysis of printed advertisements and found that Singapore Airlines used an image of a friendly Singapore girl and Cathay Pacific (China's national flag carrier airlnes) used characters that were evocative of Chinese characters. The airlines that are not linked to a specific country, such as Laude Air or Virgin Airlines, had less country of origin effect.

Dolnicar, Grabler, Grun, and Kulnig (2011) conducted research to investigate the drivers of airline loyalty. The studied airline was a national flag carrier airline and had many international destinations. A total of 687 competitive short haul flight route passengers of the studied airlines were asked their airline loyalty factors. The majority of the 687 samples were the airline's home country nationals and they revealed that, besides financial factors such as price or discount, the country of origin was one of the significant loyalty factors.

Park, Robertson, and Wu (2007) conducted a study to find out how air passengers' expectations, ticket price, airline service quality, value, passenger satisfaction, and airline image determine their air ticket buying behaviour. Two passenger surveys were conducted in Korea with 592 people and in Australia with 499 people. According to the Korean participants, considered value, passenger satisfaction, and airline image were the key factors to prefer an airline. According to the Australian participants, airline image and passenger satisfaction factors were found as key factors.

Chapter 3

Methodology

Introduction

This chapter provides information about the detailed layout of the research including research design, research settings, sample, independent variables, depedent variables, data analysis, participant eligibility, and legal and ethical considerations. This chapter describes all the steps of the study.

Research Design and Approach

The purpose of this study was to investigate if information about the airlines, gender of the participants, and country of participants had an effect on air passengers' ratings of safety and willingness to fly, and which emotions had a mediating effect on this relationship. The study was an experimental research study with two additional quasi experimental variables. Because the factorial design is the only way to to understand the effect of two or more independent variables upon one ore more dependent variables, a 2x2x2 factorial design was employed for the research. In addition, to understand the mediating effects of the six universal emotions, the bootstrapping model that was generated by Preacher, Rucker, and Hayes (2007) was employed. To make a causal effect analysis, two 3-way ANOVA analyses were employed while looking at all dependent variables concurrently.

A survey instrument was used for data collection. First, the participants were asked about their demographic information including age, gender, and

country of origin. Second, the participants were presented information about two levels of one independent variable and asked to rate their six universal emotions (mediator). The presented information came directly from Wikipedia Online Encyclopedia when anybody searches the two airlines. Last, the participants were asked to rate how they felt about whether the airlines are safe and their willingness to fly.

This format was followed for participants from both the United States and India. For the research, the independent variables were international commercial airlines (Lufthansa Airlines from Germany and Turkish Airlines from Turkey), gender of participants, and country of origin of the participants. The dependent variables were safety perception and willingness to fly rating.

The rating measurements were based on Likert type scales and sliding type scale. A Likert-type scale is the most widely used instrument in a survey research to scale participant responses. Likert (1932) used interchangeably with "rating scale", or more accurately the "Likert Type Scale" definition for the instrument. Often five ordered response levels are used. An experimental study (Dawes, 2008) found that items with five or seven levels may produce slightly higher mean scores in comparison to the highest possible attainable score, compared to a ten-level Likert scale, and this difference was statistically significant.

When reacting to a Likert poll, respondents indicate their level of agreement or contradiction on a symmetric agree-disagree scale for a series of explanations. Thus, the array "catches the power of their affections for a given

inquiry" (Burns & Burns, 2008, p. 245). In addition, rating judgments show the position of the participant (Janhunen, 2012). Self-reports are the primary method of obtaining information on individuals' psychological functioning (Monica Cuskelly, Lloyd, & Jobling, 2013). There is a growing recognition of the necessity to understand an individual's own view of self, and thus increasing numbers of researchers are collecting data often using Likert-type scales (Hartley & Maclean, 2006).

Research Setting and Sample

Population. The main purpose of this research was to extend the findings of the study sample to the target population. The target population of this research was aviation consumers, in particular air passengers. The accessible population for this study was the people who have internet access and had a user profile on Amazon's ® Mechanical Turk ®.

Sample. The method of sample selection was a nonprobability convenience random sampling. This was because the Amazon's ® Mechanical Turk ® participants were willing to participate in the research. Previous research has indicated that the MTurk system is reliable as laboratory data (Buhrmester, Kwang, & Gosling, 2011; Germine, Nakayama, Duchaine, Chabris, Chatterjee, & Wilmer, 2012). The participants were not aviation professionals and they did not have to have aviation knowledge. Therefore, every person was considered as a potential air passenger or aviation consumer.

The sample for this study was collected through the Fluid Survey online questionnaire system. The participants who had completed the entire

questionnaire were the sample subset of this research and they were compensated for their research participation. Approximately 128 participants were enough to gain an accurate representation of the population from ANOVA perspective. Because the study was also include mediation analysis, for every group 100 participants will be employed. In other words, the study consisted of 8 conditions and the sample size had to include at least 800 participants.

Mediation analysis sample sizes mostly range from 10 to 200 per condition (Bauer, Preacher, & Gil, 2006; Kenny, Korchmaros, & Bolgen, 2003; Krull & MacKinnon, 2001). Xin and Beretvas (2013) conducted research to find out inadmissable solutions of condition sample sizes 20, 40, and 80. The percentage results were 19.7%, 6.7%, and 2.5%, respectively. Cheung and Lau (2008) found that in large samples (ranging from 100 to 500 cases), bootstrapping was consistently around 5% Type I error.

Koopman, Howe, Hollenback, and Sin (2015) conducted a study to examine the performance of the bootstrapping method with sample sizes ranging from 20 to 100. They found that 100 samples per condition may be a justifiable minimum number of the sample with moderate effect size. In addition, Shrout and Bolger's (2002) recommended $N = 100$ per condition for bootstrapping in small to moderate sample sizes.

The research sample set was included participants from the United States of America and India. The reason for employing nonprobability convenience random sampling was to access a vast number of participants. Although mediation analysis were conducted, the research needed a large

number of participants. By any other sampling strategies, to get responses would not be achievable and practicable.

Power analysis. The appropriate sample size was calculated by a priori power analysis to increase the strength of the research. G*Power 3.0.10 (Erdfelder, Faul, Buchner, & Lang, 2007) software version was employed, in particularly using the equation of sample size for given α, power, and effect size parameters. Input parameters were: effect size of .25, power (beta) of .80, and alpha level of significance .05.

The result of calculation was indicated a need for a minimum number of 128 participants. This minimum number met the requirements of 2x2x2 ANOVA statistical analysis, but the study was also employed the Bootstrapping Mediation Analysis, so 100 participants were solicited for each of 8 conditions. So, there had to be a total of at least 800 participants for the study.

Research Instrumentation

The study instruments. The study was used three different surveys as the primary data collection instruments. All the surveys were electronically administrated and FluidSurveys online survey website was used to create the data collector surveys. The participants were users of Amazon's ® Mechanical Turk ® from both the United States of America and India. Initially, participants were asked their demographic information including age, gender, and country of origin. Later, airline information was presented and participants were required to respond to three surveys.

Participants were presented Wikipedia Online Encyclopedia information about three airlines (Appendix A). Then, as the first survey, the participants were asked to rate how they felt about the presented Wikipedia information based on Ekman and Friesen's (1971) six universal emotions. In the study, six universal emotions were considered as mediating variables. Those six emotions were anger, disgust, fear, happiness, sadness, and surprise. The scale consisted of six statements and was validated by Rice and Winter (2015). Participants rated their perceptions on a sliding type scale that ranges from zero to hundred. This affect scale can be found in Appendix B. To avoid reverse causal effects, the affect scale was presented before the outcome decisions of the participants (Kenny, 2011).

Second, the participants were presented a 5 point-Likert based airline safety scale (Appendix C) consisting of nine statements, which was validated by Rice, Oyman, and Mehta (2015). Participants rated their safety perceptions on a 5-point Likert scale from strongly disagree (-2) to strongly agree (+2), with a neutral choice of zero.

Third and last, the willingness to fly scale (Appendix D) consists of seven statements in which participants rated their willingness to fly on a 5-point Likert scale from strongly disagree (-2) to strongly agree (+2), with a neutral choice of zero. The reliable scale was created and validated by previous research (Rice, Mehta, Dunbar, Oyman, Ghosal, & Oni, 2015).

Variables

Independent variables. The study aimed to measure three independent variables that are airline, gender, and country of origin. All the independent variables had nominal scales. The first independent variable airline had two levels, which were Lufthansa Airlines and Turkish Airlines. The second independent variable was the gender of the participants and had two levels, which were female and male. The third independent variable was the country of origin of the participants. It had two levels, India and the United States of America.

Dependent variables. The study had two dependent variables, which were aviation consumers' safety perception about the three airlines and willingness to fly rating. Likert scales and sliding scale were used to measure the dependent variables and those scales can be found in Appendices C and D. The dependent variable scales were interval scales.

Safety perception was a 5-point Likert type scale with which the participants rated their feelings about nine questions. The 5-point Likert scale was coded from strongly disagree (-2) to strongly agree (+2), with a neutral choice of zero. The scale asks participants their feeling about aircraft of each airline, in particular about emergency equipment, durability, mechanical sounds, cabin pressurization, on-board equipment, safety, security, whether it was well built or not, and maintenance quality. As mentioned above, the scale was validated by Rice et al. (2015).

The willingness to fly measurement scale was a 5-point Likert type scale with which the participants rated their feelings about seven questions. The 5-point Likert scale was coded from strongly disagree (-2) to strongly agree (+2), with a neutral choice of zero. The scale asked participants their feeling when flying with the airline.

Data Analysis

Upon collecting the data, analyses were used to make sure the data fit ANOVA assumptions. IBM SPSS Statistics V23 software was used to conduct the data analyses. The data were inputted into SPSS Statistical Software and then the focus was on the residuals since that was what the model assumptions were concerned with.

The methodology of this research was a quantitative experimental design, in particular a 2x2x2 factorial design because it was the only way to understand the effect of two or more independent variables upon one or more dependent variables. Two three-way ANOVA statistical analyses were conducted to look at all the dependent variables separately.

Another statistical data analysis method was the Preacher and Hayes bootstrapping method of multiple mediation analysis. This method was conducted to investigate and/or measure whether six universal emotions had a mediating effect on the dependent variables.

Participant Eligibility Requirement and Protection

Participant responses were both confidential and anonymous. There was

be no compelling reason to identify or link an identifier to the members. The

surveys were distributed through Fluid Surveys as already mentioned. Fluid

Surveys was a voluntary and confidential source for participants to complete the

survey for monetary compensation. The Fluid Surveys system had its own

participation agreement that participants were required to agree and follow. One

such agreement was that participants are required to be at least 18 years old to

sign up and participate. Participants were not required to complete the survey

and could leave at any time or simply not submit their responses. The

participants were able to complete the survey remotely. At last, it was the

researcher's duty, responsibility, and obligation to secure the participants'

privacy and confidentiality.

Legal & Ethical Consideration

Before commencing the research, an application was submitted to the

Florida Tech Institutional Review Board (IRB) Office to ensure that attention

was given to human subject research issues. The first page of the IRB Approval

form can be found in Appendix E. The researcher did not anticipate any greater

risk than for normal daily activities. Participants were not identified directly or

through identifiers linked to the subject. All participants were remained

anonymous in any reporting of data.

Summary

This chapter gave a detailed explanation of the study's methodology. It described the study's setting, sample, population, and beyond. It examined the study's instrumentation and materials that were used to conduct this study. Finally, there was an explanation about the data analysis, participants' protection, and legal and ethical considerations. In Chapter 4, the results will be presented and interpreted and then Chapter 5 will discuss and reach conclusions concerning the results.

Chapter 4

Results

This chapter provides information about the research tools and the outcomes of various statistical analyses over the dataset, which was collected from Amazon's ® Mechanical Turk ® users. Descriptive and inferential statistical test results are given in both narrative and graphical forms.

Research Tools

The study was used three different surveys as the primary data collection instruments. All the surveys were electronically administered and FluidSurveys online survey website was used to create the data collector surveys. Initially, participants were asked demographic information including age, gender, and country of origin. Later, information about Turkish Airlines and Lufthansa Airlines was presented and participants responded to three surveys (Appendix A). Lastly, the participants were asked to rate their emotions, perception of safety, and willingness to fly.

Cronbach's alpha (α) measures internal consistency. Cronbach's alpha is defined as a coefficient of internal consistency (Schweizer, 2011). Cronbach's alpha ranges from 0 to 1 and according to Cortina (1993), if α is between .7 and 1.0, the instrument has good internal consistency. To test the consistency of instruments, Cronbach's alpha coefficients were measured. The instrument reliability coefficient of safety scale was .95. The instrument reliability coefficient of willingness to fly scale was .97.

Descriptive Statistics

The study had a sample size of (N = 953) participants: (N = 418) females and (N = 535) males. Of the participants, 479 (50.3%) were American and 474 of the participants (49.7%) were Indian. The mean age for female participants was 33.22 (SD = 10.44) and the mean age for male participants was 32.26 (SD = 9.94). Table 1 summarizes the overall demographic characteristics of the participants.

Table 1

Summary of Participants' Age and Country of Origin by Gender

| | | | | Country of Origin | | | |
| | | Age | | USA | | India | |
Group	N	M	SD	N	%	N	%
Female	418	33.22	10.44	230	24.1%	169	17.7%
Male	535	32.26	9.94	249	26.1%	305	32%
Overall	953	32.68	10.17	479	50.3%	474	49.7%

Table 2 indicates the number of participants in each condition and the descriptive statistics of age. The mean age of Turkish Airlines respondents was 32.63 (N = 470, SD = 10.44) and Lufthansa Airlines respondents was 32.73 (N = 483, SD = 9.90). The mean age of Indian participants was 31.84 (N = 474, SD = 9.42) and American participants was 33.52 (N = 479, SD = 10.80). The mean age of female participants' was 33.22 (N = 418, SD = 10.44) and male participants was 33.26 (N = 535, SD = 9.94).

Turkish Airlines information was provided to 233 American participants (115 Male and 118 Female) to gather perception of safety and willingness to fly. The average age of the 115 male participants was 32.95 (SD = 10.68) and the average age of the 118 female participants was 33.75 (SD = 11.25). Lufthansa Airlines information was provided to 246 American participants (115 Male and 131 Female) to gather their perception of safety and willingness to fly. The average age of the 115 male participants was 31.67 (SD = 9.20) and average age of the 131 female participants was 35.42 (SD = 11.56).

Table 2

Means and Standard Deviations of Participants' Ages

Airline Type	Country of Origin	Gender	Mean (*M*)	Std. Deviation (*SD*)	*n*
Turkish	USA	Male	32.95	10.68	115
		Female	33.75	11.25	118
	India	Male	31.91	10.50	150
		Female	31.93	8.74	87
Lufthansa	USA	Male	31.67	9.20	115
		Female	35.42	11.56	131
	India	Male	32.52	9.39	155
		Female	30.32	7.97	82
Airline Type		Turkish	32.63	10.44	470
		Lufthansa	32.73	9.90	483
Country of Origin		India	31.84	9.42	474
		USA	33.52	10.80	479
Gender		Female	33.22	10.44	418
		Male	32.26	9.94	535

Note: The summary of descriptive statistics such as mean (M), standard deviation (SD), and sample size (n) of each independent variable (Airline Type, Gender, and Country of Origin) and overall participants.

After having information about Turkish Airlines and Lufthansa Airlines presented to them, participants were asked to rate their emotions based on Ekman and Friesen's (1971) six universal emotions. All the participants rated their sadness, fear, disgust, happiness, surprise, and anger ratings on a scale that ranges from 0 to 100 (see Appendix B for the emotions). Table 3 gives the averages of the emotion scales by condition.

The average sadness rating of male participants was 47.35 (SD = 31.21, N = 521) and the average sadness rating of female participants was 49.18 (SD = 31.21, N = 521). The average sadness rating of the US-origin participants was 45.31 (SD = 32.83, N = 461) and the average sadness rating of the India-origin participants was 50.98 (SD = 31.58, N = 462). The average sadness rating of participants that were presented Turkish Airlines information was 59.29 (SD = 30.03, N = 455). The average sadness rating of participants that were presented Lufthansa Airlines information was 37.32 (SD = 30.77, N = 468).

Turkish Airlines information was presented to participants to rate their sadness. American male participants' average sadness rating was 54.51 (SD = 29.36, N = 112). On the other hand, American female participants' average sadness rating was 64.98 (SD = 31.86, N = 112). The average sadness rating of Indian male participants was 60.29 (SD = 28.07, N = 146), while the average sadness rating of Indian female participants was 56.36 (SD = 30.78, N = 85).

Lufthansa Airlines information was presented to rate their sadness. American male participants' average sadness rating was 29.50 (SD = 25.89, N = 111). On the other hand, American female participants' average sadness rating

was 33.56 (*SD* = 30.42, *N* = 126). The average sadness rating of Indian male participants was 42.68 (*SD* = 31.92, *N* = 152), while the average sadness rating of Indian female participants was 43.95 (*SD* = 32.50, *N* = 79).

The average fear rating of male participants was 46.21 (*SD* = 30.20, *N* = 521) and the average fear rating of female participants was 48.88 (*SD* = 33.23, *N* = 521). The average fear rating of American participants was 44.79 (*SD* = 33.09, *N* = 461) and the average fear rating of Indian participants was 49.95 (*SD* = 33.60, *N* = 462). The average fear rating of participants who were presented Turkish Airlines information was 58.75 (*SD* = 30.06, *N* = 455). The average fear rating of participants who were presented Lufthansa Airlines information was 36.31 (*SD* = 29.81, *N* = 468).

Turkish Airlines information was presented to participants to rate their fear. American male participants' average fear rating was 54.51 (*SD* = 29.36, *N* = 112). On the other hand, American female participants' average fear rating was 64.98 (*SD* = 31.86, *N* = 112). The average fear rating of Indian male participants was 60.29 (*SD* = 28.07, *N* = 146), while the average fear rating of Indian female participants was 56.36 (*SD* = 30.78, *N* = 85).

Lufthansa Airlines information was presented to participants to rate their fear. American male participants' average sadness rating was 27.25 (*SD* = 25.16 *N* = 111). In contrast, American female participants' average sadness rating was 33.63 (*SD* = 29.69, *N* = 126). The average sadness rating of Indian male participants was 41.36 (*SD* = 29.29, *N* = 152) and the average sadness rating of Indian female participants was 42.13 (*SD* = 30.74, *N* = 79).

The average disgust rating of male participants was 31.72 ($SD = 28.85$, $N = 521$) and the average disgust rating of female participants was 27.57 ($SD = 29.29$, $N = 521$). The average disgust rating of American participants was 22.09 ($SD = 26.95$, $N = 461$) and the average disgust rating of Indian participants was 37.73 ($SD = 29.27$, $N = 462$). The average disgust rating of participants who were presented Turkish Airlines information was 35.53 ($SD = 30.29$, $N = 455$). The average disgust rating of participants who were presented Lufthansa Airlines information was 24.46 ($SD = 27.00$, $N = 468$).

Turkish Airlines information was presented to participants to rate their disgust. American male participants' average disgust rating was 31.87 ($SD = 29.40$, $N = 112$). On the other hand, American female participants' average disgust rating was 25.24 ($SD = 30.81$, $N = 112$). The average disgust rating of Indian male participants was 42.82 ($SD = 28.94$, $N = 146$); the average disgust rating of Indian female participants was 41.38 ($SD = 28.78$, $N = 85$).

Lufthansa Airlines information was presented to participants to rate their disgust. American male participants' average disgust rating was 16.22 ($SD = 20.56$, $N = 111$). On the other hand, American female participants' average disgust rating was 15.77 ($SD = 22.86$, $N = 126$). The average disgust rating of Indian male participants was 32.28 ($SD = 28.65$, $N = 152$), while the average disgust rating of Indian female participants was 24.86 ($SD = 29.92$, $N = 79$).

The average happiness rating of male participants was 46.57 ($SD = 32.22$, $N = 521$) and the average happiness rating of female participants was 41.76 ($SD = 33.61$, $N = 521$). The average happiness rating of American

participants was 35.82 (SD = 30.77, N = 461) and the average happiness rating of Indian participants was 53.12 (SD = 32.71, N = 462). The average happiness rating of participants who were presented Turkish Airlines information was 35.50 (SD = 32.43, N = 455). The average happiness rating of participants who were presented Lufthansa Airlines information was 53.21 (SD = 30.98, N = 468).

Turkish Airlines information was presented to participants to rate their happiness. American male participants' average happiness rating was 27.13 (SD = 28.00, N = 112). On the other hand, American female participants' average happiness rating was 19.31 (SD = 23.88, N = 112). The average happiness rating of Indian male participants was 45.18 (SD = 32.87, N = 146); in contrast, the average happiness rating of Indian female participants was 51.21 (SD = 34.25, N = 85).

Lufthansa Airlines information was presented to participants to rate their happiness. American male participants' average happiness rating was 53.19 (SD = 29.36, N = 111). However, American female participants' average happiness rating was 42.90 (SD = 29.90, N = 126). The average happiness rating of Indian male participants was 57.40 (SD = 30.01, N = 152), while the average happiness rating of Indian female participants was 61.59 (SD = 32.84, N = 79).

The average surprise rating of male participants was 53.49 (SD = 26.86, N = 521) and the average surprise rating of female participants was 53.77 (SD = 28.04, N = 521). The average surprise rating of American participants was 49.02 (SD = 27.86, N = 461) and the average surprise rating of Indian

participants was 58.20 ($SD = 26.09$, $N = 462$). The average surprise rating of participants who were presented Turkish Airlines information was 58.81 ($SD = 26.17$, $N = 455$). The average surprise rating of participants who were presented Lufthansa Airlines information was 48.56 ($SD = 27.58$, $N = 468$).

Turkish Airlines information was presented to participants to rate their surprise. American male participants' average surprise rating was 52.63 ($SD = 27.40$, $N = 112$). On the other hand, American female participants' average surprise rating was 58.90 ($SD = 27.35$, $N = 112$). The average surprise rating of Indian male participants was 61.22 ($SD = 23.97$, $N = 146$) and the average surprise rating of Indian female participants was 62.72 ($SD = 25.56$, $N = 85$).

Lufthansa Airlines information was presented to participants to rate their surprise. American male participants' average surprise rating was 42.95 ($SD = 26.50$, $N = 111$). On the other hand, American female participants' average surprise rating was 42.37 ($SD = 23.05$, $N = 126$). The average surprise rating of Indian male participants was 54.41 ($SD = 26.98$, $N = 152$); the average surprise rating of Indian female participants was 55.04 ($SD = 27.66$, $N = 79$).

The average anger rating of male participants was 36.54 ($SD = 29.73$, $N = 521$) and the average anger rating of female participants was 33.90 ($SD = 31.21$, $N = 521$). The average anger rating of American participants was 29.06 ($SD = 29.73$, $N = 461$) and the average anger rating of Indian participants was 41.70 ($SD = 29.76$, $N = 462$). The average anger rating of participants who were presented Turkish Airlines information was 43.38 ($SD = 30.23$, $N = 455$). The

average anger rating of participants who were presented Lufthansa Airlines information was 27.61 ($SD = 28.50$, $N = 468$).

Turkish Airlines information was presented to participants to rate their anger. American male participants' average anger rating was 40.30 ($SD = 30.12$, $N = 112$). On the other hand, American female participants' average anger rating was 39.59 ($SD = 32.97$, $N = 112$). The average anger rating of Indian male participants was 47.50 ($SD = 28.99$, $N = 146$) and the average anger rating of Indian female participants was 45.39 ($SD = 28.08$, $N = 85$).

Lufthansa Airlines information was presented to participants to rate their anger. American male participants' average anger rating was 20.40 ($SD = 23.60$, $N = 111$). On the other hand, American female participants' average anger rating was 17.33 ($SD = 23.94$, $N = 126$). The average anger rating of Indian male participants was 35.02 ($SD = 29.04$, $N = 152$), while the average anger rating of Indian female participants was 33.90 ($SD = 31.99$, $N = 79$).

Table 3

Means and Standard Deviations on the Measure of Each Emotion as a Function of Airline Type, Country, and Gender

			Sadness		Fear		Disgust		Happiness		Surprise		Anger		N
			M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Turkish	USA	Male	54.51	29.36	55.20	30.17	31.87	29.40	27.13	28.00	52.63	27.40	40.30	30.12	112
		Female	64.98	31.86	64.30	32.63	25.24	30.81	19.31	23.88	58.90	27.35	39.59	32.97	112
	India	Male	60.29	28.07	58.78	27.27	42.82	28.94	45.18	32.87	61.22	23.97	47.50	28.99	146
		Female	56.36	30.78	56.06	30.43	41.38	28.78	51.21	34.25	62.72	25.56	45.39	28.08	85
Lufthansa	USA	Male	29.50	25.89	27.25	25.16	16.22	20.56	53.19	29.36	42.95	26.50	20.40	23.60	111
		Female	33.56	30.42	33.63	29.69	15.77	22.86	42.90	29.90	42.37	27.05	17.33	23.94	126
	India	Male	42.68	31.92	41.36	29.29	32.28	28.65	57.40	30.01	54.41	26.98	35.02	29.04	152
		Female	43.95	32.50	42.13	30.74	34.83	29.92	61.59	32.84	55.04	27.66	39.90	31.99	79
Airline	Turkish		59.29	30.03	58.75	30.06	35.53	30.29	35.50	32.43	58.81	26.17	43.38	30.23	455
	Lufthansa		37.32	30.77	36.31	29.81	24.46	27.00	53.21	30.98	48.56	27.58	27.61	28.50	468
COO	USA		45.31	32.83	44.79	33.09	22.09	26.95	35.82	30.77	49.02	27.86	29.06	29.73	461
	India		50.98	31.58	49.95	30.60	37.73	29.27	53.12	32.71	58.20	26.09	41.70	29.76	462
Gender	Male		47.35	31.21	46.21	30.20	31.72	28.85	46.57	32.22	53.49	26.86	36.54	29.73	521
	Female		49.18	33.71	48.88	33.73	27.57	29.49	41.76	33.61	53.77	28.04	33.90	31.21	402

Participants were presented information about Turkish Airlines and Lufthansa Airlines. Then they were asked to rate their perception of safety on a five-point Likert scale between -2 and +2. The average safety perception rating of Turkish Airlines respondents was .11 ($N = 470$, $SD = .93$) and Lufthansa Airlines respondents was .69 ($N = 483$, $SD = .75$). The average safety perception rating of Indian participants was .60 ($N = 474$, $SD = .79$) and American participants was .20 ($N = 479$, $SD = .94$). The average safety perception rating of female participants was .29 ($N = 418$, $SD = .99$) and male participants was .49 ($N = 535$, $SD = .79$).

The average Turkish Airlines perception of safety rating of American male participants was .09 ($N = 115$, $SD = 10.68$) and American female participants was -.43 ($N = 118$, $SD = .95$). On the other hand, Indian male participants' average Turkish Airlines perception of safety rating was .37 ($N = 150$, $SD = .81$) and Indian female participants' was .41 ($N = 87$, $SD = .89$).

The average Lufthansa Airlines perception of safety rating of American male participants' was .64 ($N = 115$, $SD = .75$) and American female participants' was .49 ($N = 131$, $SD = .86$). On the other hand, Indian male participants' average Lufthansa Airlines perception of safety rating was .78 ($N = 155$, $SD = .62$) and Indian female participants' was .90 ($N = 82$, $SD = .77$). Table 4 presents the averages of safety perception by conditions.

Table 4

Means and Standard Deviations on the Measure of Safety Perception as a Function of Airline Type, Country of Origin, and Gender

Airline Type	Country of Origin	Gender	Mean (*M*)	Std. Deviation (*SD*)	*N*
Turkish	USA	Male	.09	10.68	115
		Female	-.43	.95	118
	Indian	Male	.37	.81	150
		Female	.41	.89	87
Lufthansa	USA	Male	.64	.75	115
		Female	.49	.86	131
	Indian	Male	.78	.62	155
		Female	.90	.77	82
Airline Type		Turkish	.11	.93	470
		Lufthansa	.69	.75	483
Country of Origin		USA	.20	.94	479
		Indian	.60	.79	474
Gender		Male	.49	.79	535
		Female	.29	.99	418

Note: The summary of descriptive statistics such as mean (*M*), standard deviation (*SD*), and sample size (*N*) of various groups looked at perceived safety based on country of origin, gender, and airline type. This also includes *M, SD*, and n of each independent variable (Airline Type, Gender, and Country of Origin).

Participants were presented information about Turkish Airlines and Lufthansa Airlines. Then, they were asked to rate their willingness to fly with the airlines on five-point Likert scale between -2 and +2. The average willingness to fly rating of Turkish Airlines respondents was -.22 (*N* = 470, *SD* = 1.20) and Lufthansa Airlines respondents was .66 (*N* = 483, *SD* = .99). The average willingness to fly rating of Indian participants was .53 (*N* = 474, *SD* = 1.03) and American participants was -.08 (*N* = 479, *SD* = 1.24). The average

willingness to fly rating of female participants was .06 ($N = 418$, $SD = 1.29$) and male participants was .35 ($N = 535$, $SD = 1.29$).

The average Turkish Airlines willingness to fly rating of American male participants was -.38 ($N = 115$, $SD = 1.06$) and American female participants was -.93 ($N = 118$, $SD = 1.08$). On the other hand, Indian male participants' average Turkish Airlines willingness to fly rating was .22 ($N = 150$, $SD = 1.10$) and Indian female participants' was .20 ($N = 87$, $SD = 1.18$).

The average Lufthansa Airlines willingness to fly rating of American male participants was .64 ($N = 115$, $SD = 1.00$) and American female participants was .33 ($N = 131$, $SD = 1.18$). In contrast, Indian male participants' average Lufthansa Airlines willingness to fly rating was .80 ($N = 155$, $SD = 0.74$) and Indian female participants' was .91 ($N = 82$, $SD = 0.92$). Table 5 indicates averages of willingness to fly ratings by conditions.

Table 5

Means and Standard Deviations on the Measure of Willingness to Fly as a Function of Airline Type, Country of Origin, and Gender

Airline Type	Country of Origin	Gender	Mean (*M*)	Std. Deviation (*SD*)	*N*
Turkish	USA	Male	-.38	1.06	115
		Female	-.93	1.08	118
	Indian	Male	.22	1.10	150
		Female	.20	1.18	87
Lufthansa	USA	Male	.64	1.00	115
		Female	.33	1.18	131
	Indian	Male	.80	.74	155
		Female	.91	.92	82
Airline Type		Turkish	-.22	1.20	470
		Lufthansa	.66	.99	483
Country of Origin		USA	-.08	1.24	479
		Indian	.53	1.03	474
Gender		Male	.35	1.07	535
		Female	.06	1.29	418

Note: The summary of descriptive statistics such as mean (*M*), standard deviation (*SD*), and sample size (*N*) of various groups looked at willingness to fly based on country of origin, gender, and pilot preference. This also includes *M*, *SD*, and n of each independent variable (Airline Type, Gender, and Country of Origin).

Assumption Testing

   Outlier Analysis. An outlier analysis was conducted using Jackknife Distances in SAS JMP® 11 to see if there were any outliers present in the data. Jackknife Analysis pointed out 31 data points as outliers of the dataset. The vast majority of the outliers were in the Likert scale dependent variables.

   Two ANOVA analyses were conducted for each dependent variable and model summaries are presented as follows. The ANOVA model summary was $F(3, 918) = 68.25$, $R^2 = .18$, $p < .001$, which only differs slightly when

including the outliers, which was $F(3, 945) = 61.94$, $R^2 = .16$ $p < .001$ for the

safety dependent variable. The ANOVA model summary was $F(3, 918) =$

89.95, $R^2 = .23$, $p < .001$, which only differs slightly when including the

outliers, which was $F(3, 949) = 85.45$, $R^2 = .21$ $p < .001$ for the willingness to

fly dependent variable. As a result, the data points were kept.

Assumption Testing. An assumption is normality of the distribution.

According to the Shapiro-Wilk Test and Kolmogorov-Smirnov Test results, all

the distributions were statistically significant ($p < .001$). Because the statistical

test results were significant, the normality assumption was violated. According

to Pallant (2007), a violation of the normality assumption is not a problem if the

sample size is greater than 30 or 40. Elliot and Woodward (2007) imply that

even if the dataset does not meet the normality assumption, parametric tests can

be used for data analysis. By checking normal q-q plots visually, the

distribution seems normal and according to the Central Limit Theorem, if the

sample data are approximately normal, then the sampling distribution too will

be normal.

Another assumption is (homoscedasticity) homogeneity of variances.

Homoscedasticity assumes that all groups have the same or a similar variance.

To test this assumption, Levene's Equality of Variances test was conducted and

the result was statistically significant for the perception of safety $F(7, 945) =$

5.485, $p < .001$ and for willingness to fly $F(7, 945) = 9.692$, $p < .001$.

Furthermore, the Welch Test and Brown-Forsythe robust tests were conducted

and all the results were statistically significant ($p < .001$). The results of the

homoscedasticity assumption checks indicated that all groups did not have the same or similar variances. In other words, violation of this assumption increases incorrectly reporting a significant difference in the group means when none exists. Rusticus and Lovato (2014) claimed that a non-significant Levene's test result could be also a reflection of an insufficient sample size or unreliable measurements. So, to prevent this, they claimed that collecting as much data as is possible, even with unequal sample sizes, can be an option to decrease the probability of a Type I error.

A priori power analysis indicated that there should be at least 128 participants to reach 80% power for an ANOVA analysis. On the other hand, to conduct a bootstrapping analysis, a large sample size was needed. Mediation analysis sample sizes mostly range from 10 to 200 per condition (Bauer, Preacher, & Gil, 2006; Kenny, Korchmaros, & Bolgen, 2003; Krull & MacKinnon, 2001). Koopman, Howe, Hollenback, and Sin (2015) conducted a study to examine the performance of the bootstrapping method with sample sizes ranging from 20 to 100. They found that 100 samples per condition may be a justifiable minimum number of the sample with a moderate effect size. In addition, Shrout and Bolger (2002) recommended $N = 100$ per condition for bootstrapping in small to moderate sample sizes. Cheung and Lau (2008) found that in large samples (ranging from 100 to 500 cases), bootstrapping was consistently around 5% Type I error. The sample size of this study was 953 and, because it was large, it can be concluded that a Type I error was not a concern for this study for both ANOVA and bootstrapping analysis.

Inferential Statistics

      ANOVA Analyses. Two three-way ANOVA analyses were conducted via SPSS V23. Safety perception and willingness to fly ratings were the dependent variables and airline type, gender, and country of origin were the independent variables of the analyses. Each independent variable had two levels, making this 2x2x2 factorial ANOVA design. The p-values had to be lower than .05 to indicate a statistical significance.

      ANOVA Analysis for Safety Perception. The first ANOVA looked at all of the factors independently to determine if there were any main effects or interactions for the perception of safety rating. There were three main effects, three two-way interactions, and one three-way interaction. Table 6 indicates ANOVA output for the perception of safety dependent variable. This model was statistically significant $F(7, 945) = 31.49$, $p < .001$, $\eta_p^2 = .189$ and accounted for 19% of the variability of the data around its mean.

      There was a significant main effect for airline type $F(1, 945) = 123.58$, $p < .001$, $\eta_p^2 = .197$, where participants rated high safety perception for Lufthansa Airlines ($M = .69$, $SD = .75$) over participants who rated their safety perception level for Turkish Airlines ($M = .11$, $SD = .93$). Gender $F(1, 945) = 5.47$, $p = .020$, $\eta_p^2 = .001$, was significant, where males and females differed significantly in their safety perception towards the airline type. Male participants rated more safety perception ($M = .49$, $SD = .79$) than female participants ($M = .29$, $SD = .99$). Country of origin $F(1, 945) = 61.31$, $p < .001$, $\eta_p^2 = .061$ was significant, where Americans and Indians did differ significantly in their safety perception

towards the airline type. Indian participants rated more safety perception ($M =$ .60, $SD = .79$) than American participants ($M = .20$, $SD = .94$).

Table 6

Three-Way Analysis of Variance Output of Safety Perception Rating

Source	df	Sum of Squares	F Ratio	Prob >F	Partial Eta Squared
Model	7	143.05	31.49	< .001	.189
Airline Type	1	80.20	123.58	< .001	.197
Country of Origin	1	39.71	61.31	< .001	.061
Gender	1	3.55	5.47	.020	.060
Airline Type*COO	1	4.53	6.99	.008	.007
Airline Type*Gender	1	2.81	4.33	.038	.005
Gender*Country of Origin	1	9.97	15.36	< .001	.016
Airline Type *Gender*COO	1	1.1	1.71	.192	.002
Error	945	613.29			
C. Total	952	756.34			

There was a significant interaction between airline type and country of origin $F(1, 945) = 6.99$, $p = .008$, $\eta_p^2 = .007$, where the effect of country of origin was the same for each of the two levels of airline type options. Both the Americans and Indians perceive higher safety about Lufthansa Airlines ($M =$ .56, $SD = .81$) and ($M = .82$, $SD = .66$), respectively, but Indians perceived

higher safety about Lufthansa Airlines compared to Americans. On the other hand, both Americans and Indians perceived lower safety about Turkish Airlines ($M = -.17$, $SD = .93$) and ($M = .38$, $SD = .84$), respectively; however, Americans actually showed a tendency to not feel safe about Turkish Airlines compared to Indians, who still felt slightly safe. Figure 2 shows the interaction plot of the two-way interaction between airline type and country of origin.
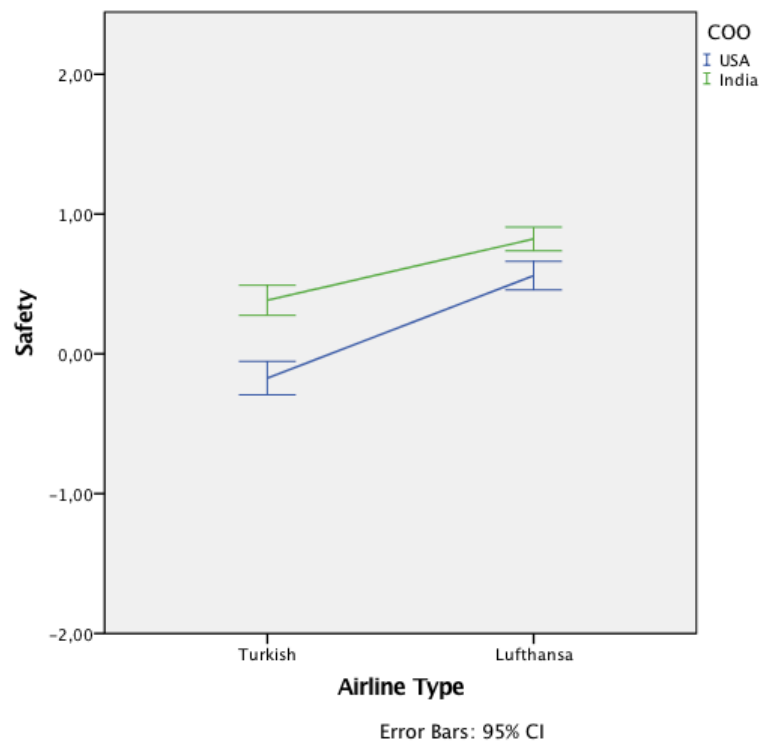

Figure 2 Interaction plot of two-way interaction between airline type and country of origin

The interaction between airline type and gender $F(1, 945) = 4.33$, $p = .038$, $\eta_p^2 = .005$, was significant, where males' or females' safety perception rating did depend on the airline type. Both males and females who were presented Lufthansa Airlines information rated a higher safety perception of the

airline (*M* = .72, *SD* = .68) and (*M* = .65, *SD* = .84). Both males and females

who were presented Turkish Airlines information rated lower safety perception

of the airline (*M* = .25, *SD* = .83) and (*M* = -.07, *SD* = 1.01). Females felt less

safe about Turkish Airlines. Figure 3 shows the plot of the two-way interaction
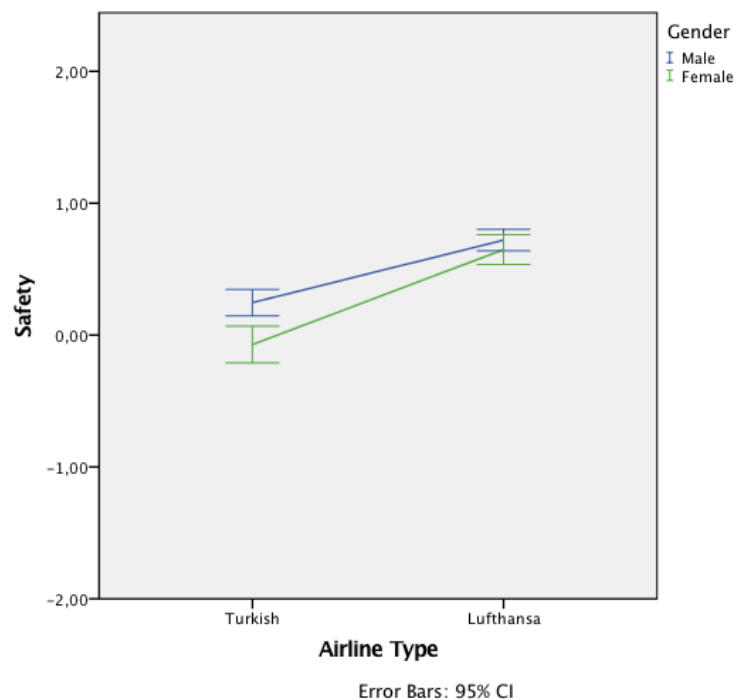
between airline type and gender.

Figure 3 Interaction plot of two-way interaction between airline type and
gender

The third two-way interaction between gender and country of origin was

significant $F(1, 945) = 15.36$, $p < .001$, $\eta_p^2 = .016$, where males' or females'

safety perception did depend on whether they were American or Indian, and

vice versa. Both Indian males and Indian females rated a higher safety

perception (*M* = .57, *SD* = .75) and (*M* = .65, *SD* = .85). Both American males

and American females rated a lower safety perception (*M* = .36, *SD* = .84) and

(M = .05, SD = 1.01). Figure 4 shows the plot of the two-way interaction

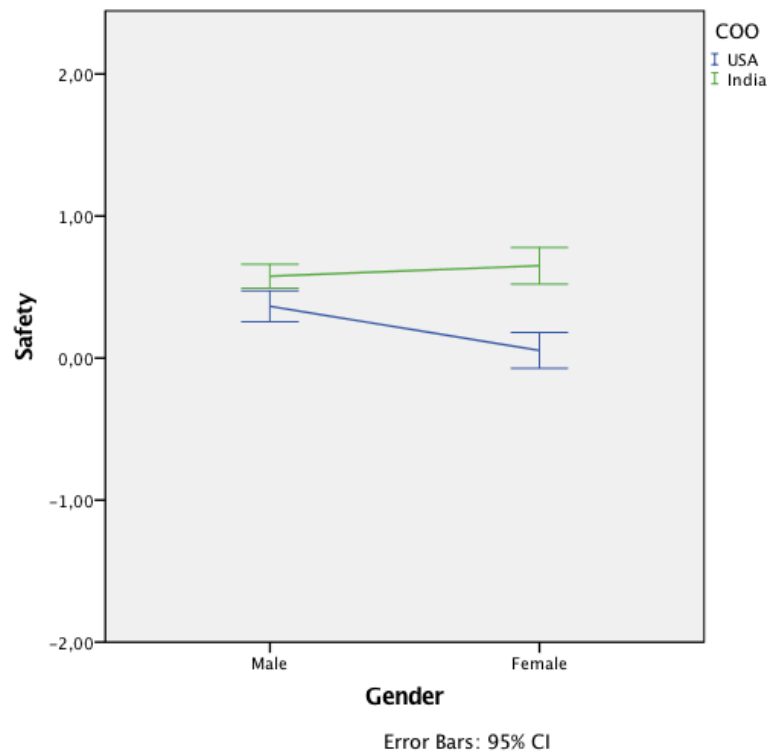between gender and country of origin.

Figure 4 Interaction plot of two-way interaction between gender and country of
origin

The three-way interaction between airline type, gender, and country of

origin was not significant F(1, 945) = 1.71, p = .192, η_p^2 = .002, where being an

American male/female and Indian male/female did not depend significantly on

the airline type for perceiving or not perceiving safety about Turkish Airlines

and Lufthansa Airlines.

ANOVA Analysis for Willingness to Fly. The second ANOVA looked

at all of the factors independently to determine if there were any main effects or

interactions for the willingness to fly rating. There were three main effects,

three two-way interactions, and one three-way interaction. Table 7 indicates the ANOVA output for the willingness to fly dependent variable. This model was statistically significant $F(7, 945) = 41.65$, $p < .001$, $\eta_p^2 = .236$ and accounted for 24% of the variability of the data around its mean.

There was a significant main effect for airline type $F(1, 945) = 169.62$, $p < .001$, $\eta_p^2 = .152$, where participants rated high willingness to fly rating for Lufthansa Airlines ($M = .66$, $SD = .99$) over participants, who rated willingness to fly for Turkish Airlines ($M = -.22$, $SD = 1.20$). For the variable gender $F(1, 945) = 8.08$, $p = .005$, $\eta_p^2 = .008$, males and females differed significantly in willingness to fly towards the airline type. Male participants rated more willingness to fly ($M = .35$, $SD = 1.07$) than female participants ($M = .06$, $SD = 1.29$). Country of origin $F(1, 945) = 81.95$, $p < .001$, $\eta_p^2 = .080$ was significant, where Americans and Indians did differ significantly in their willingness to fly towards the airline type. Indian participants rated more willingness to fly ($M = .53$, $SD = 1.03$) than American participants ($M = -.08$, $SD = 1.24$).

Table 7

Three-Way Analysis of Variance Output of Willingness to Fly Rating

Source	df	Sum of Squares	F Ratio	Prob >F	Partial Eta Squared
Model	7	313.64	41.65	< .001	.236
Airline Type	1	182.47	169.62	< .001	.152
Country of Origin	1	88.16	81.95	< .001	.080
Gender	1	8.69	8.08	.005	.008
Airline Type*COO	1	13.87	12.90	< .001	.013
Airline Type*Gender	1	1.88	1.74	.187	.002
Gender*Country of Origin	1	12.99	12.07	.001	.013
Airline Type *Gender*COO	1	.183	.17	.680	< .001
Error	945	1016.58			
C. Total	952	1330.22			

There was a significant interaction between airline type and country of origin $F(1, 945) = 12.90$, $p < .001$, $\eta_p^2 = .013$, where the effect of country of origin was the same for each of the two levels of airline type options. Both the Americans and Indians had more willingness to fly with Lufthansa Airlines ($M = .47$, $SD = 1.11$) and ($M = .84$, $SD = .81$), respectively, but Indians had more willingness to fly with Lufthansa Airlines compared to Americans. On the other hand, both Americans and Indians had less willingness to fly with Turkish Airlines ($M = -.66$, $SD = 1.10$) and ($M = .21$, $SD = 1.13$), respectively, but

Americans actually showed a tendency to not be willing to fly with Turkish

Airlines compared to Indians. Figure 5 shows the interaction plot of the two-

way interaction between airline type and country of origin.
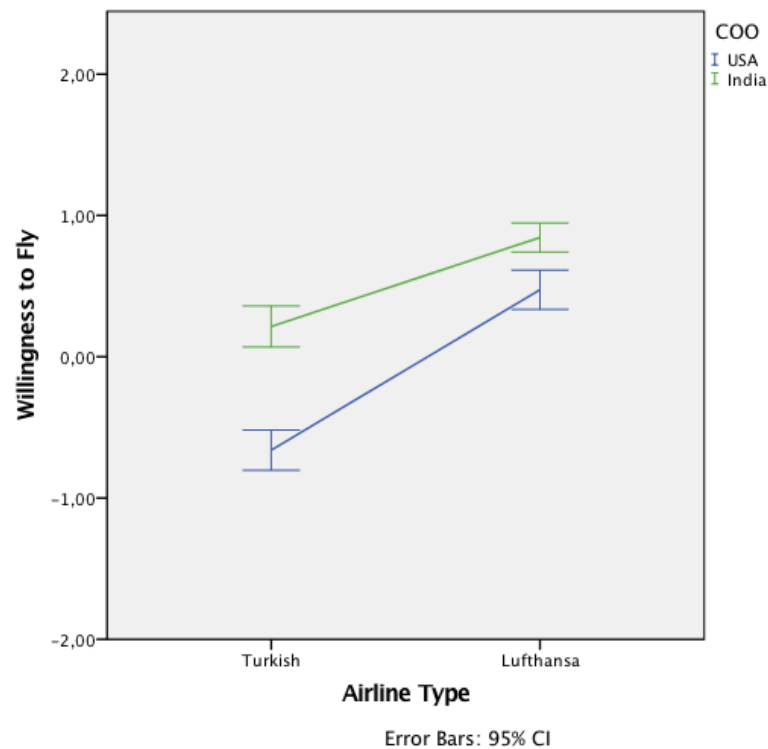

Figure 5 Interaction plot of two-way interaction between airline type and
country of origin

The interaction between airline type and gender $F(1, 945) = 1.74$, $p =$

.187, $\eta_p^2 = .005$, was not statistically significant, where males' or females'

safety perception rating did not depend on the airline type. Both males and

females had more willingness to fly with Lufthansa Airlines ($M = .74$, $SD = .87$)

and ($M = .55$, $SD = 1.12$). Both males and females had less willingness to fly

with Turkish Airlines ($M = -.05$, $SD = 1.12$) and ($M = -.45$, $SD = 1.26$). Female

participants had less willingness to fly with Turkish Airlines than male

participants. Figure 6 shows below the interaction plot of the two-way

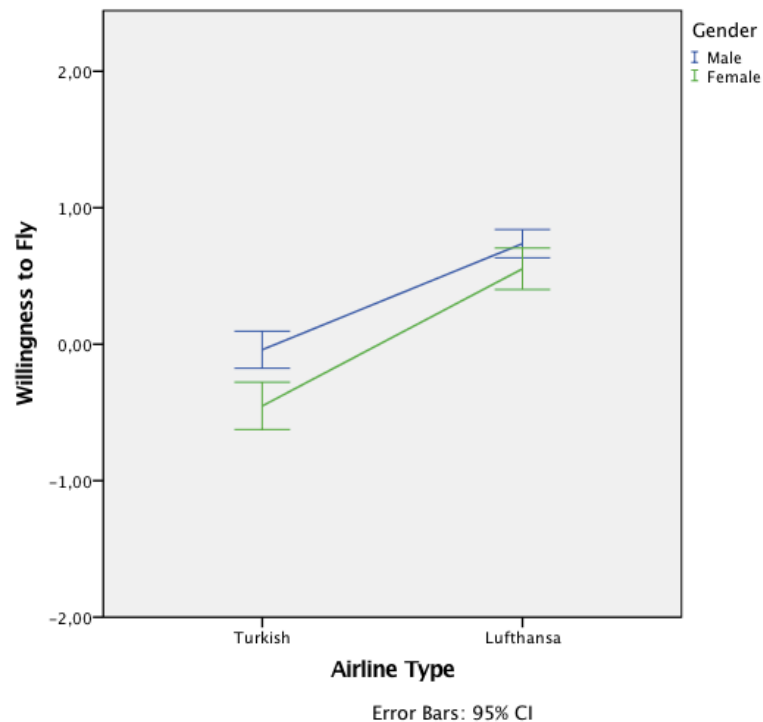interaction between airline type and gender.

Figure 6 Interaction plot of two-way interaction between airline type and gender

The third two-way interaction between gender and country of origin was

significant $F(1, 945) = 12.07$, $p = .001$, $\eta_p^2 = .013$, where males' or females'

willingness to fly did depend on whether they were American or Indian, and

vice versa. Both Indian males and Indian females had more willingness to fly

($M = .52$, $SD = .98$) and ($M = .55$, $SD = 1.12$). Both American males and

American females had less willingness to fly ($M = .13$, $SD = 1.15$) and ($M = -

.27$, $SD = 1.30$). Figure 7 shows the interaction plot of the two-way interaction

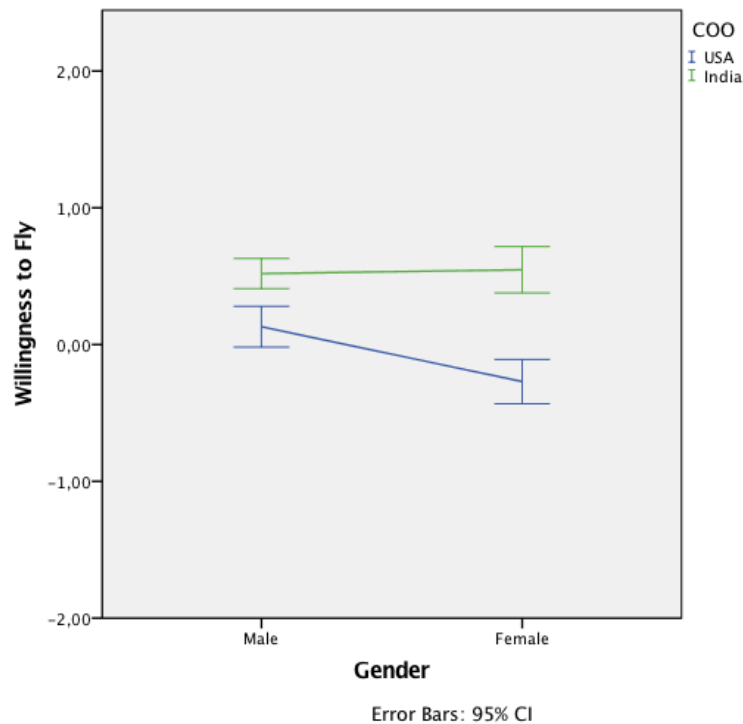between gender and country of origin.

Figure 7 Interaction plot of two-way interaction between gender and country of origin

The three-way interaction between pilot preference, gender, and country of origin was not significant $F(1, 945) = .17$, $p = .680$, $\eta_p^2 < .001$, where being an American male/female and Indian male/female did not depend significantly on the airline type for having or not having willingness to fly with Turkish Airlines and Lufthansa Airlines.

Mediation Analyses. Preacher and Hayes' (2008) bootstrapping of multiple mediation analysis approach was employed for investigating and/or measuring the mediation effect on the dependent variable. Ten thousand bootstrapped samples were used to investigate the indirect effect of the mediators. Figure 8 provides a demonstration of multiple mediator effects, where *X* denotes the independent variable, *M* the Mediator variable, and *Y* the

dependent variable. An indirect effect is interpreted by checking 95%

Confidence Intervals (CI) of *b* paths. If zero falls outside of the 95% CI range, it

can be concluded that a significant indirect mediation effect occurred.
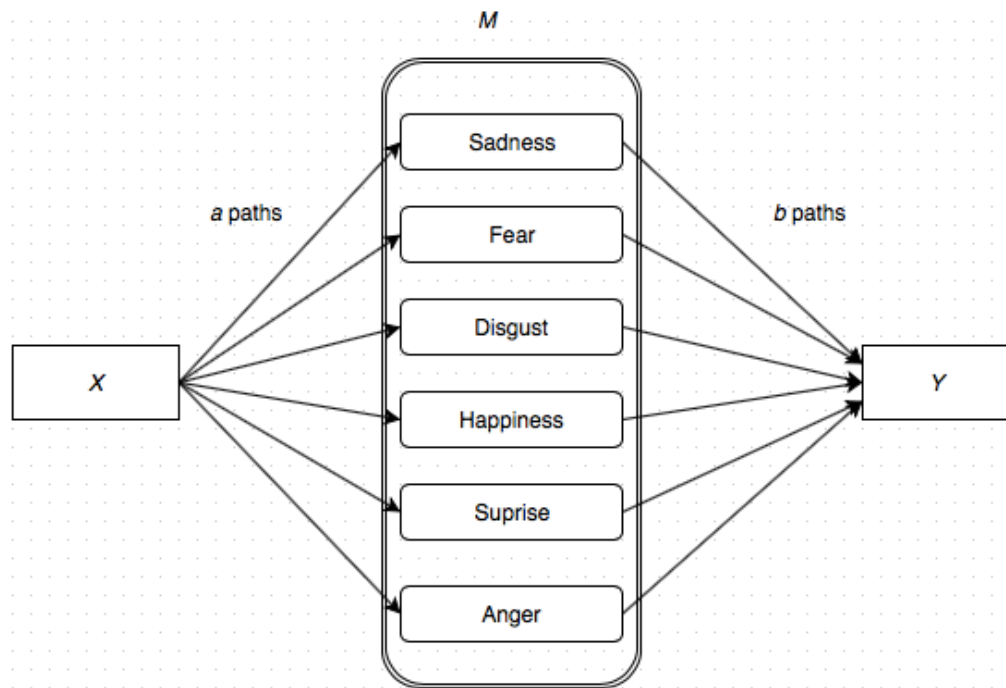

Figure 8 A demonstration of multiple mediation effects

To investigate the mediating effects of six universal emotions, a total of

six mediation analyses were conducted. Airline type, gender, and country of

origin were included separately as independent variables and those three

independent variables were run for both the safety and willingness to fly

dependent variables. Table 8 presents the mediation analyses results.

Table 8

Mediation Analysis Results of the Six Universal Emotions

IV	DV	Sadness	Fear	Disgust	Happiness	Surprise	Anger
Airline	Safety Perception	[(-.003) – (-.003)]	[(-.008) – (-.003)]*	[(-.001) – (.004)]	[(.008) – (.012)]*	[(-.001) – (.002)]	[(-.004) – (-.001)]
Gender	Safety Perception	[(-.015) – (.003)]	[(-.048) – (.007)]	[(-.024) – (.001)]	[(-.096) – (-.005)]*	[(-.003) – (.005)]	[(-.001) – (.022)]
COO	Safety Perception	[(-.024) – (.007)]	[(-.066) – (-.007)]*	[(-.017) – (.053)]	[(.108) – (.206)]*	[(-.023) – (.014)]	[(-.065) – (-.009)]*
Airline	Willingness to Fly	[(-.065) – (.008)]	[(.129) – (.297)]*	[(-.067) – (-.003)]*	[(.182) – (.315)]*	[(-.036) – (.014)]	[(-.021) – (.072)]
Gender	Willingness to Fly	[(-.022) – (.003)]	[(-.074) – (.013)]	[(-.031) – (.001)]	[(-.133) – (-.009)]*	[(-.004) – (.008)]	[(-.002) – (.025)]
COO	Willingness to Fly	[(-.037) – (-.007)]	[(-.103) – (-.013)]*	[(-.019) – (.068)]	[(.153) – (.282)]*	[(-.024) – (.021)]	[(-.075) – (-.001)]*

Note: " * " means statistically significant.

The first mediation analysis was conducted between airline type and safety perception. Fear had a 95% CI, ranging from -.07 to .20, while happiness had a95% CI, ranging from .13 to .23. Thus, because the indirect effect of fear and the indirect effect of happiness were statistically significant, mediation of fear and happiness occurred between airline type and safety. See Figure 9 for a visual demonstration of the mediation analysis.
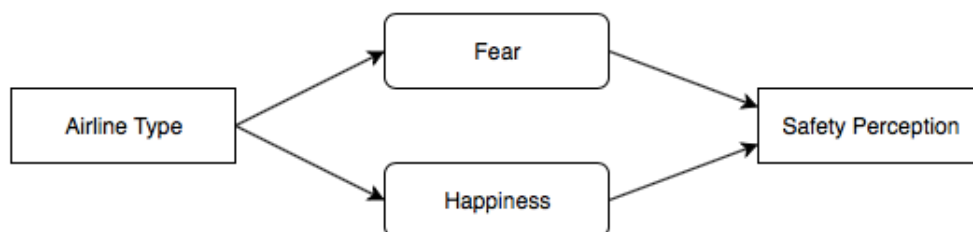

Figure 9 Visual demonstration of the significant mediators between airline type and safety perception

The second mediation analysis was conducted between gender and safety perception. Happiness had a 95% CI, ranging from -.1 to -.01. Thus, because the indirect effect of happiness was statistically significant, mediation of happiness occurred between gender and safety. See Figure 10 for a visual demonstration of the mediation analysis.
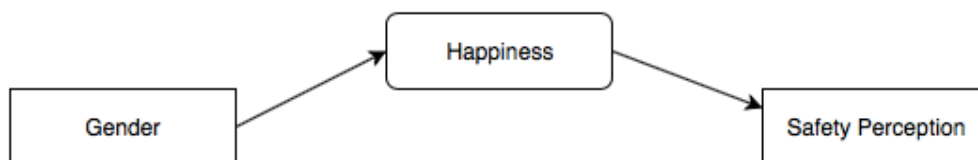

Figure 10 Visual demonstration of the significant mediator between gender and safety perception

The third mediation analysis was conducted between country of origin and safety perception. Fear had a 95% CI, ranging from -.23 to -.02; happiness had a 95% CI, ranging from .29 to .78; and anger had a 95% CI, ranging from -.22 to -.03. Thus, because the indirect effect of fear, the indirect effect of happiness, and the indirect effect of anger were statistically significant, mediation of fear, happiness, and anger occurred. See Figure 11 for a visual demonstration of the mediation analysis.
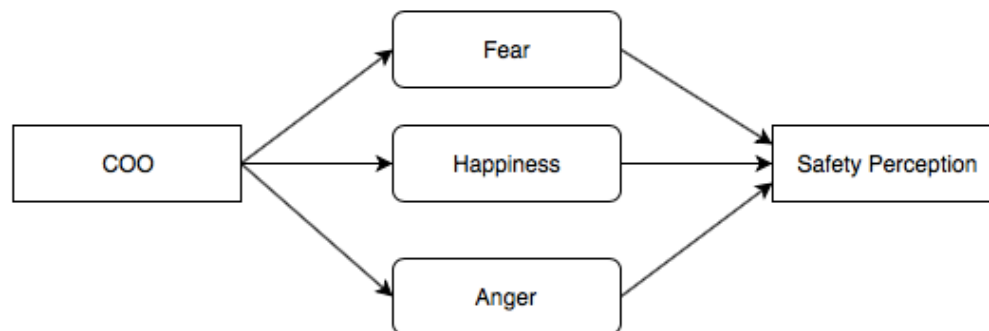

Figure 11 Visual demonstration of the significant mediators between country of origin and safety perception

The fourth mediation analysis was conducted between airline type and willingness to fly. Fear had a 95% CI, ranging from .26 to .80; disgust had a 95% CI, ranging from -.16 to -.01; and happiness had a 95% CI, ranging from .36 to .86. Thus, because the indirect effect of fear, the indirect effect of disgust, and the indirect effect of happiness were statistically significant, the mediation of fear, disgust, and anger was happiness. See Figure 12 for a visual demonstration of the mediation analysis.
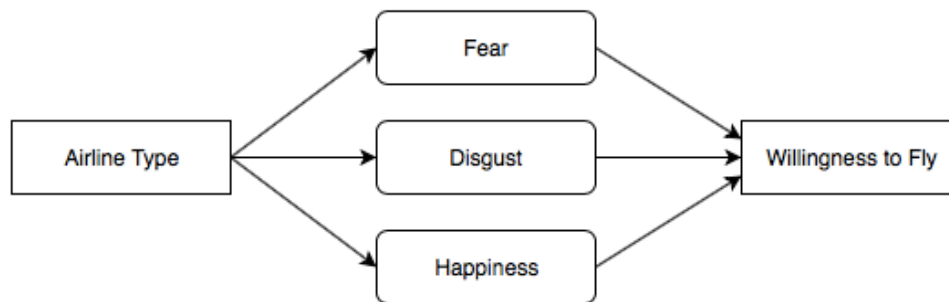
Figure 12 Visual demonstration of the significant mediator between gender and willingness to fly

The fifth mediation analysis was conducted between gender and willingness to fly. Happiness had a 95% CI, ranging from .04 to 1.04. Because the indirect effect of happiness was statistically significant, mediation of happiness occurred between gender and willingness to fly. See Figure 13 for a visual demonstration of the mediation analysis.

Figure 13 Visual demonstration of the significant mediator between gender and willingness to fly

The last mediation analysis was conducted between country of origin and willingness to fly. Fear had a 95% CI, ranging from -.10 to -.01. Happiness had a 95% CI, ranging from .29 to .71. Anger had a 95% CI, ranging from -.08 to -.01. Because the indirect effect of fear, the indirect effect of happiness, and the indirect effect of anger were statistically significant, mediation of happiness

occurred between country of origin and willingness to fly. See Figure 14 for a visual demonstration of the mediation analysis.
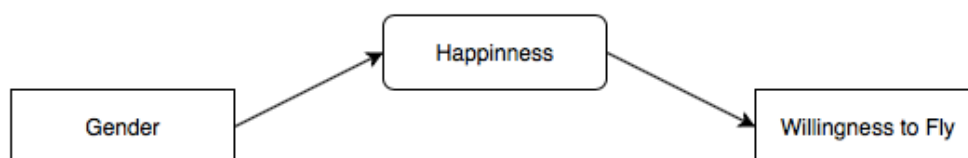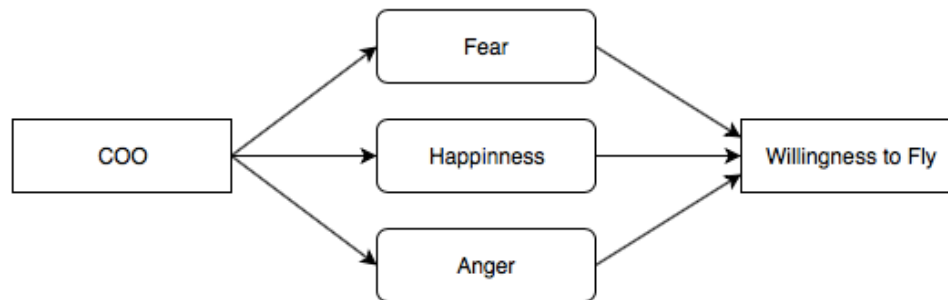

Figure 14 Visual demonstration of the significant mediators between country of origin and willingness to fly

Decisions on Hypotheses

The purpose of this study was to determine if the airline type, gender of participants, and participants' country of origin have an effect on ratings of an individual's perception of safety and willingness to fly, and which emotions have a mediating effect on this relationship. There were six research questions, which means the study included six null hypotheses and six alternate hypotheses.

The first null hypothesis H_{01} stated that the given information does not affect consumers' safety rating and willingness to fly. The alternative H_{11} stated that the given information affects consumers' safety rating and willingness to fly. Based on the data, the null hypothesis was rejected and alternate hypothesis was accepted. Participants' safety perception $F(1, 945) = 123.58$, $p < .001$, $\eta_p^2 = .197$ demonstrated a significant main effect. Participants' willingness to fly rating $F(1, 945) = 169.62$, $p < .001$, $\eta_p^2 = .152$ also indicated a significant main

effect. It can be concluded that participants' safety perception and willingness to fly differed depending on airline type.

The second null hypothesis H_{02} stated that gender does not affect consumers' safety rating and willingness to fly. The alternative H_{12} stated that gender affects consumers' safety ratings and willingness to fly. The results of the main effect for safety perception $F(1, 945) = 5.47$, $p = .020$, $\eta_p^2 = .001$ was statistically significant. The results of the main effect for willingness to fly $F(1, 945) = 8.08$, $p = .005$, $\eta_p^2 = .008$ was also statistically significant. Therefore, the null hypothesis was rejected, and it was concluded that participants' gender had a significant influence on their safety rating and willingness to fly.

The third null hypothesis H_{03} stated that origin of country does not affect consumers' ratings of safety and willingness to fly. The alternative H_{13} stated origin of country affects consumers' ratings of safety and willingness to fly. The results of the main effect for safety perception $F(1, 945) = 61.31$, $p < .001$, $\eta_p^2 = .061$ was statistically significant. The results of the main effect for willingness to fly $F(1, 945) = 81.95$, $p < .001$, $\eta_p^2 = .080$ was also statistically significant. Therefore, the null hypothesis was rejected and it was concluded that participants' country of origin had a significant influence on their safety rating and willingness to fly.

The fourth null hypothesis H_{04} stated that there is no interaction between the variables. The alternative H_{14} stated that there is an interaction between the

variables. There were three two-way interactions and one three-way interaction for both the safety and willingness to fly dependent variables.

For the safety dependent variable, the two-way interactions that were significant were $F(1, 945) = 4.33$, $p = .038$, $\eta_p^2 = .005$ for airline type and gender, $F(1, 945) = 6.99$, $p = .008$, $\eta_p^2 = .007$ for airline type and country of origin, and $F(1, 945) = 15.36$, $p < .001$, $\eta_p^2 = .016$ for gender and country of origin. As a result, all null hypothesis was rejected and those significances mean that the participants' safety perception of airline type depends on the participants' gender. The same is true for participants' safety perception of airline type, which also depends on country of origin. The same is true for participant's safety perception on gender, which also depends on country of origin.

For the willingness to fly dependent variable, the two-way interaction was not significant $F(1, 945) = 1.74$, $p = .187$, $\eta_p^2 = .005$ for airline type and gender. As a result, participants' willingness to fly on airline type did not depend on gender. Interactions for airline type and country of origin $F(1, 945) = 12.90$, $p < .001$, $\eta_p^2 = .013$, and for gender and country of origin $F(1, 945) = 12.07$, $p = .001$, $\eta_p^2 = .013$ were significant. Therefore the null hypothesis was rejected. Those significances mean that participants' safety perception of airline type depended on the participants' country of origin. The same is true for participants' safety perception on gender, which depended on country of origin.

The fifth null hypothesis H_{05} stated that effect does not mediate the relationship between the IVs and ratings of safety and willingness to fly. The alternative H_{15} stated that affect mediates the relationship between the IVs and ratings of safety and willingness to fly. Based on the data, as indicated in Table 7, effect significantly mediated the relationship between the IVs and ratings of safety and willingness to fly. Thus, the null hypothesis was rejected and the alternate hypothesis was accepted.

The sixth null hypothesis H_{06} stated that six universal emotions do not have an effect on the relationship between the IVs and ratings of safety and willingness to fly. The alternative H_{16} stated that at least one of the six universal emotions would have an effect on the relationship between the IVs and ratings of safety and willingness to fly. Based on the data, as indicated in Table 7, happiness had a significant mediating effect on all six mediation analyses. Fear had a significant mediating effect on three of the six mediation analyses. Disgust had a significant mediating effect on one of the six mediation analyses. Also, anger had a significant mediating effect on one of the six mediation analyses. Thus, the null hypothesis was rejected and the alternate hypothesis was accepted.

Summary

As stated before, the purpose of this study was to determine if the airline type, gender of participants, and participants' country of origin have an effect on ratings of an individual's perception of safety and willingness to fly, and which emotions have a mediating effect on this relationship. Two three-way

ANOVA analyses and a mediation analysis with affect as the mediating variable were conducted. The results of this study revealed significant results. All of the null hypotheses were rejected and important inputs about aviation consumers' feelings are provided for the aviation industry. Finally, the results indicate that affect mediated the relationship between the IVs and ratings of safety and willingness to fly. Chapter 5 provides detailed discussions about the results.

Chapter 5

Conclusion

The purpose of this study was to determine if the airline type, gender of participants, and participants' country of origin have an effect on ratings of safety and willingness to fly, and which emotions have a mediating effect on this relationship. The study included three independent variables (IVs), which are airline type, gender, and country of origin. Each independent variable consisted of two levels, which were airline type − Turkish Airlines and Lufthansa Airlines, country of origin – India and the United States, and gender − male and female. The dependent variables were ratings of safety perception and willingness to fly.

The study also included a mediator variable for investigating and/or measuring whether Ekman and Friesen's (1998) six universal emotions had an impact on the dependent variables. The study had a total of 953 participants (418 females) from the US and India. The participants were presented information about either Turkish Airlines or Lufthansa Airlines. Each participant was asked to rate their feelings, safety perception, and willingness to fly based on the information.

The study utilized an experimental factorial design with two additional quasi-experimental variables in addition to a mediation analysis. Two different three-way ANOVA analyses and a mediation analysis were conducted. The null hypotheses (H_0) and the alternative hypotheses (H_A) are included below to restate the propositions for this study.

RQ1: How does information given about the airlines affect consumer ratings of safety and willingness to fly?

H_{01}: The given information does not affect consumers' safety rating and willingness to fly.

H_{A1}: The given information affects consumers' safety rating and willingness to fly.

RQ2: How does the gender of the consumer affect consumer ratings of safety and willingness to fly?

H_{02}: Gender does not affect consumers' safety rating and willingness to fly.

H_{A2}: Gender affects consumers' safety ratings and willingness to fly.

RQ3: How does country of origin of the consumer affect consumer ratings of safety and willingness to fly?

H_{03}: Country of origin does not affect consumer ratings of safety and willingness to fly.

H_{A3}: Country of origin affects consumer ratings of safety and willingness to fly.

RQ4: What interactions are there between airline information, gender, and country?

H_{04}: There is no interaction between the variables.

H_{A4}: There is an interaction between the variables. This is a non-directional prediction, as we have no *a priori* basis for a directional prediction.

RQ5: Does effect (emotion) mediate the relationship between the independent variables and ratings of safety and willingness to fly?

H_{05}: Effect does not mediate the relationship between the IVs and ratings of safety and willingness to fly.

H_{A5}: Effect mediates the relationship between the IVs and ratings of safety and willingness to fly.

RQ6: Which, if any, emotions mediate the relationship between the IVs and ratings of safety and willingness to fly?

H_{06}: Six universal emotions do not have an effect on the relationship between the IVs and ratings of safety and willingness to fly.

H_{A6}: At least one of the six universal emotions will have an effect on the relationship between the IVs and ratings of safety and willingness to fly.

Summary of Findings

Based on the data, two ANOVA analyses and six mediation analyses were conducted. According to the results, all the null hypotheses were rejected.

ANOVA Analyses. The two ANOVA analyses were conducted to see if there would be any main effects and/or interactions among the variables. One of the ANOVA analyses was for the ratings of safety perception and the other one was for willingness to fly.

The first ANOVA analysis was for the rating of safety perception dependent varaible and there were three significant main effects and three two-way significant interactions. There is a significant main effect for airline type, where participants rated high safety perception for Lufthansa Airlines over

Turkish Airlines. Gender was statistically significant, where male participants rated more safety perception over female participants. Country of origin was significant, where Indian participants rated more safety perception over Indian participants.

One of the three significant two-way interactions was between airline type and country of origin, where the effect of country of origin was the same for each of the two levels of airline type options. Both the Americans and Indians perceive more safety about Lufthansa Airlines, but Indians had a higher perception rating about safety about Lufthansa Airlines compared to Americans. On the other hand, both Americans and Indians perceived less safety about Turkish Airlines, but Americans actually showed a tendency to not feel safe about Turkish Airlines compared to Indians.

The second significant two-way interaction was between airline type and gender, where males' or females' safety perception rating did depend on the airline type. Both males and females rated a higher safety perception based on Lufthansa Airlines information. Both males and females rated a lower safety perception based on Turkish Airlines information.

The last significant two-way interaction was between gender and country of origin, where males' or females' safety perception did depend on whether they were American or Indian, and vice versa. Both Indian males and Indian females rated a higher safety perception than Americans males and American females.

The second ANOVA analysis was for the willingness to fly dependent variable and there were three significant main effects and two two-way significant interactions. There was a significant main effect for airline type, where participants rated a higher willingness to fly for Lufthansa Airlines over Turkish Airlines. Gender was statistically significant, where male participants rated more willingness to fly over female participants. Country of origin was significant, where Indian participants rated a higher safety perception than Indian participants.

There was a significant interaction between airline type and country of origin. The effect of country of origin was the same for each of the two levels of airline type options. Both the Americans and Indians had more willingness to fly with Lufthansa Airlines, but Indians had more willingness to fly with Lufthansa Airlines compared to Americans. On the other hand, both Americans and Indians had less willingness to fly with Turkish Airlines, but Americans actually showed a tendency to not be willing to fly with Turkish Airlines compared to Indians.

Mediation Analyses. To investigate the mediating effects of the six universal emotions, a total of six mediation analyses were conducted. Airline type, gender, and country of origin were included separately as independent variables and those three independent variables were run for both the safety and willingness to fly dependent variables.

Fear and happiness were found to be significant mediators between airline type and safety perception. Happiness was found to be a significant

mediator between gender and safety perception. Fear, anger, and happiness were found to be significant mediators between airline type and safety perception.

Fear, disgust, and happiness were found to be significant mediators between airline type and willingness to fly. Happiness was found to be a significant mediator between gender and willingness to fly. Fear, happiness, and anger were found to be significant mediators between country of origin and willingness to fly.

Discussion

The study indicates that gender has a statistically significant effect on safety perception and willingness to fly. The social role theory claims that females are physically smaller and weaker on average compared to males (Wood & Eagly, 2002). Perhaps because of these biological, psychological, and physical differences, it may cause the females to be less willing to take unknown risks than male participants.

As Evolutionary Theory proposes, men and women have different reproductive natures and the genders have different reproductive traits (Buss, 2008; Geary, 2009). The results of the study support the theory and indicate that gender difference is significant. While male participants are female participants rated less safety perception and willingness to fly, male participants rated more. This also can be because of risk perception. A laboratory experiment was conducted to find out whether gender difference is a general trait for the

financial decision-making process and the results indicated that females tend to choose a less risky option than male individuals (Powell & Ansic, 1997).

Another possible reason might be gender bias. Males are generally less willing to describe their phobias, though this is truer with social phobias compared to situational phobias (Craske, 2003). The male participants may have felt that they need to hide their original feelings, so they rated safety and willingness to fly higher. Female air passengers rate themselves as more scared of flying than male air passengers (Busscher, van Gerwen, Spinhoven, & de Geus, 2010). Males have a fear of losing control, but females fear crashing and being stuck in a small space (Gerwen, Spinhoven, Diekstra, & Dyck, 1997).

The average rating of safety perception for female participants was .20 (SD = .99) and for male participants was .49 (SD = .79). The average rating of willingness to fly for female participants was .06 (SD = 1.29) and for male participants was .35 (SD = 1.07). The results of the study supported the literature that female participants had a lower safety perception rating and willingness to fly rating than male participants.

The study indicated that country of origin had a statistically significant effect on safety perception and willingness to fly. The United States and India represent two different cultures. The United States is an individualistic culture and India is a collectivistic culture (Hofstede, 1980). The study revealed those cultural differences. Gures, Demirer, Aldemir, and Tayfur (2011) investigated national differences of passengers regarding their perceptions of Turkish airports' safety. There were 911 Turkish (eastern) and 595 European (western)

participants involved in the research. The results indicate that European air passengers feel less safe than Turkish passengers. Roth and Romeo (1992) found in the literature that country of origin relies on perceived economic development level.

In the study, the average rating of safety perception for American participants was .20 (*SD* = .94) and for Indian participants was .60 (*SD* = .79). The average rating of willingness to fly for American participants was -.08 (*SD* = 1.24) and for Indian participants was .53 (*SD* = 1.03). The United States is a western country and as the literature underlined, western country participants rated less safety perception and willingness to fly than eastern country participants.

Stereotyping can be explained as consumer reaction to country of origin information (Ahmed & d"Astous, 1995; Maheswaran, 1994; Tse & Gorn, 1993). Lufthansa Airlines is based in Germany, which is a European country; Turkish Airlines is based in Turkey and it is a more eastern country than Germany. Cordell (1992) proposed that the participants might be positively evaluating the airlines' country of origin. Less developed countries' products, such as Turkish Airlines in this study, may had negative evaluations such as being less qualified and unreliable.

Johannsson (1989) found a strong correlation among images of a country, companies, and brands. In the automotive industry, most of the German brands, like Mercedes-Benz, BMW, AUDI, and Volkswagen, are popular and they have a significant market share. For the American participants,

it can be commented on that because America has a lot of German-produced cars, the American participants might have perceived that a German-based airline can be as safe as the cars. For this reason, American participants may consider a German-based airline safer than a Turkish airline operator.

If a consumer's country of origin perception is positive, the consumer considers the product as safe and harmless (Xu, Leung, & Yan, 2013). Indian participants indicated more willingness to fly with Turkish Airlines than American participants did. India experienced severe earthquakes in last five years and the Turkish government and civil foundations launched many aid organizations. Indian people, especially earthquake plaintiffs, received various human needs from the organizations. This can be a reason for Indian people to feel that Turkish people are warm and rate their airline operator higher. On the other hand, the US has German origin citizens. German immigrants founded large colonies in Virginia called Germanna (Germanna Foundation, 2016), in Texas (Jordan, 2010), etc. Because some Americans are of Germen origin, it can be concluded that Germany and America as country of origin has an interaction. This interaction may let American participants rate Lufthansa Airlines as safer.

Hoenen, Karunaratna, and Quester (2005) investigated the country of origin effects of Singapore Airlines and Lufthansa Airlines, and the general country of origin effects of participants on operational and safety standards. The vast majority of participants (73.8%) were Singaporean and this study indicated that there was a strong halo effect for international airlines. The majority of

people rated Singapore Airlines more favorably. As the researchers indicated, people prefer the service if the service provider has an interaction with participants' country. The current study supported those researchers' finding that cultural interaction plays a significant role in decision making. Unlike American participants, Indian participants indicated more willingness to fly with Turkish Airlines.

The study demonstrated the hypothesis that claims that affect has a significant mediation over people's safety perception and willingness to fly. No study that we know of has revealed the differentially mediating power of emotions between conditions and outcomes. It can be proposed that negative emotions caused less safety perception and willingness to fly. Furthermore, the participants did not feel a positive perception.

The last hypothesis was for detecting which of Ekman and Friesen's (1971) six universal emotions mediated the relationship between conditions and outcomes. As the *a priori* prediction, each of the six universal emotions had different mediating effects on the outcomes. The study fills the gap and provides a new perspective to the literature about emotion mediation over safety perception and willingness to fly.

The main emotion that mediates safety perception and willingness to fly was happiness. Happiness was mediated in six out of six emotions. Happiness can have a correlation with human needs, and this correlation can influence willingness to fly. If a human is happy, it will be easy to say that the needs are met. For this study, Indian participants, male participants, and the participants

who had been presented with Lufthansa Airlines information had their needs met. As a result of this, their happiness mediated their decision outcomes.

One possible explanation of a significant happiness mediator can be life satisfaction. As life satisfaction increases, as a part of human nature, expectations also increase. As long as the expectations are met, people make themselves happy. Because the average income of the United States population is higher than that of the Indian population, Americans' expectations could be higher than Indians'. If the expectations were not met, their happiness level automatically would be low. The average happiness rating of the study was 35.82 ($SD = 30.77$) for American participants and 53.12 ($SD = 32.71$) for Indian participants. The results of the study are consistent with the literature; as happiness decreases, expectations also decrease (Schimmack, Oshi, & Furr, 2004).

The other emotion that played a mediating role was fear. Fear mediates three of the six mediation analyses. The cost of fear is an avoidant for decision-making (Pitting, Brand, Pawlikowski, & Alpers, 2014). Fearful participants showed avoidant decision-making when it came to safety matters. When the participants were presented airline information, the number of accidents and fatalities may have caused participants' avoidance decisions. Fear significantly mediated the country of origin and safety perception relation. The United States is a more safety sensitive country than India. The results were interesting, because the average fear rating of Indian people was higher than American's fear rating. This can because of the aviation knowledge of American

participants. The American aviation industry is a pioneer among others, so that people may have extensive and comprehensive knowledge about aircraft. This knowledge may lead the people to perceive high reliability about the aircraft.

Anger was a significant mediator over the safety perception. Coget, Haag, and Gibson (2011) found that high anger lead to intuitive decision making and intuitive decision making is less effective when anger is associated with personal issues. When people are presented airline information, participants might remember their previous negative experiences. For example, the participants or their loved ones may have been involved in a traffic accident with a fatality, or participants may have watched such a tragedy on the news. As a result of those experiences, the anger emotion occurred; thus, the anger emotion had a significant influence on their decision outcomes.

Disgust was a significant mediator over willingness to fly. Disgust especially influences logical processing and legal decision-making (Capestany & Harris, 2014). When people face some negative issues, their moral judgments change, and this change may cause them to have a disgust emotion. Disgust can be a cause and consequence of dehumanization. Dehumanization prevents people from having social relationships and creates social distances (Sherman & Johnathon, 2011). For this study, the participants read two different airline histories and both airlines had had fatal accidents. Participants may think that they were paying to die. This feeling may decrease the aviation consumers' and air operators' interaction and so willingness to fly will also decrease.

Recommendation for Future Research

The current study included participants from only two countries, India and the United States. If future research includes participants from more than two countries, the results can produce a more global snapshot. Because the aviation industry is worldwide, when the researchers employ participants from all over the world, the findings will be more strong, which would enable the researchers to more accurately determine the strength and extent of the effect.

As a methodological recommendation, employing different data collection instruments would increase the power of generalizability and enrich the dataset. Some people may not be familiar with the Internet, so using a face-to-face data collection method rather than a web-based platform would increase the power and reliability of the data.

Limitations

All the research activities have some limitations and the limitations may affect the research interpretations. When humans and human perceptions exist in a study, the researcher should be extra careful about the limitations of the research.

The primary limitations for this study were sampling technique and data collection methodology. The participants were recruited via Amazon's® Mechanical Turk® online survey platform. All the participants were compensated per survey. The researcher was unable to manipulate this platform and the researcher does not have control of the online survey platform. While data collection by an online survey was easy and time efficient, the data did not

include the participants who have no Internet access. In the aviation industry, a large portion of the aviation consumers still use travel agencies to book their flights. So, excluding the participants who do not have Internet access might be a limitation for the study.

The study did not exclude the people who have never been in aircraft. That means the participants could have rated their air operator safety perception and willingness to fly regardless of lack of any flight experience.

A delimitation for this study was employing only two countries, the United States and India. This selection may be an advantage for making a cross-cultural analysis, but limits the generalizability of the findings.

Another delimitation for the research was using only two air operators. Both air operators were based in Europe. Because the aviation domain has many regional and international air operators, only two operators do not reflect the world's air operator image. Turkish Airlines was chosen because it was the legacy carrier of the researcher's country and Lufthansa was picked for being one of the biggest competitors of Turkish Airlines.

Another delimitation was using Ekman and Friesen's (1971) group of emotions as universal emotions. In the literature, there is a debate about which of the emotions are universal, but for the purpose of this study, this debate was not a significant concern.

Lastly, for the ANOVA and mediation analyses, the minimum number of participants required to conduct a robust study was met. However, the

researcher should take into account the limitations and delimitations of the research.

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Appendix A Information about three Airlines

Lufthansa Airlines

Deutsche Lufthansa AG, commonly known as Lufthansa (sometimes also as Lufthansa German Airlines), is a German airline and also the largest airline in Europe, both in terms of overall passengers carried and fleet size when combined with its subsidiaries. It operates services to 18 domestic destinations and 197 international destinations in 78 countries across Africa, the Americas, Asia, and Europe, using a fleet of more than 280 aircraft. Besides its own passenger airline service (also known as Lufthansa Passage), Deutsche Lufthansa AG is a holding company for several other airlines and further aviation-related companies, including Swiss International Air Lines, Austrian Airlines, Germanwings and Lufthansa Technik. With over 615 aircraft, it has one of the largest passenger airline fleets in the world when combined with its subsidiaries. In 2014, the group carried over 106 million passengers.

Lufthansa's registered office and corporate headquarters are in Cologne. The main operations base, called Lufthansa Aviation Center (LAC), is located at Lufthansa's primary traffic hub at Frankfurt Airport. The majority of Lufthansa's pilots, ground staff, and flight attendants are based there. Lufthansa's secondary hub is Munich Airport with a third, considerably smaller one maintained at Düsseldorf Airport which transfers to Germanwings, so Lufthansa only operates just around 10 destinations (excluding seasonal) which all have been transferred to Germanwings. Lufthansa is one of the five founding members of the Star Alliance, the world's largest airline alliance, formed in 1997.

Having been a state-owned enterprise until 1994, the majority of Lufthansa's shares are nowadays held by private investors (88.52%), as well as MGL Gesellschaft für Luftverkehrswerte (10.05%), Deutsche Postbank (1.03%), and Deutsche Bank (0.4%). Since 1970, Lufthansa has involved its employees in profit sharing, giving them the opportunity to choose between cash and preference shares. When Lufthansa was privatized, employees

received more than 3% of its shares. The name of the company is derived from Luft (the German word for "air"), and Hansa (a Latin term meaning "guild" most commonly used historically in reference to the Hanseatic League).

Lufthansa Airlines Incidents and Accidents:

This is a list of accidents and incidents involving Lufthansa mainline aircraft since 1954. For earlier occurrences, refer to Deutsche Luft Hansa. For accidents and incidents on Lufthansa-branded flights which were operated by other airlines, see the respective articles (Lufthansa CityLine, Lufthansa Cargo, Contact Air, Germanwings, and Air Dolomiti).

- On January 11, 1959, Lufthansa Flight 502, a Lufthansa Lockheed Super Constellation (registered D-ALAK) crashed onto a beach shortly off Galeão Airport in Rio de Janeiro following a scheduled passenger flight from Hamburg, Germany. Of the 29 passengers and 10 crew members on board, only the co-pilot and 2 flight attendants survived. Investigation into the accident resulted in blaming the pilots for having executed a too low approach, which may have been caused by fatigue.

- On December 4, 1961, a Lufthansa Boeing 720 (registered D-ABOK) crashed of unknown causes near Mainz during a training flight from Frankfurt to Cologne, killing the three occupants. It was the first crash involving an aircraft of that type.

- On July 15, 1964, another Boeing 720 (registered D-ABOP) crashed during a training flight, with the three people on board losing their lives (in what was only the second crash for this aircraft type). The accident occurred near Ansbach after the pilots had lost control of the aircraft when executing an aileron roll.

- On January 28, 1966 at 17:50 local time, Lufthansa Flight 5 from Frankfurt to Bremen, which was operated using a Convair CV-440 Metropolitan registered D-ACAT, crashed 0.5 kilometres (0.31 mi) short of Bremen Airport, killing all 42 passengers and 4 crew members on board. The pilots had tried to execute a go-around when approaching

the airport, during which the aircraft stalled and went out of control, possibly due to pilot error.

- On December 20, 1973 at 00:33 local time, a Lufthansa Boeing 707 (registered D-ABOT) with 98 passengers and 11 crew members on board collided with a middle marker shack upon approaching Palam Airport in Delhi following a scheduled passenger flight from Bangkok (as part of a multi-leg flight back to Germany). There were no injuries, but the aircraft was damaged beyond repair. At the time of the incident, there had been poor visibility conditions.

Turkish Airlines:

Turkish Airlines is the national flag carrier airline of Turkey, headquartered at the Turkish Airlines General Management Building on the grounds of Atatürk Airport in Yeşilköy, Bakırköy, Istanbul. As of February 2015, it operates scheduled services to 261 destinations in Europe, Asia, Africa, and the Americas, making it the fourth-largest carrier in the world by number of destinations. With Istanbul Atatürk Airport being the main base, the Turkish carrier has secondary hubs at Esenboğa International Airport, Sabiha Gökçen International Airport, and Adnan Menderes Airport. THY has been a member of the Star Alliance network since 1 April 2008. In April 2010, TURKISH replaced TURKAIR as the new call sign for Turkish Airlines. With an operational fleet of nine cargo aircraft, the airline's cargo division serves 47 destinations.

Turkish Airlines Incidents and Accidents:

In its history, Turkish Airlines suffered a total of 15 accidents of which 14 were fatal. The most remarkable occurred in 1974, when Turkish Airlines Flight 981 crashed shortly after takeoff from Orly Airport, France, claiming the lives of all 346 people on board. To date, it is the second-deadliest single-aircraft accident in the world.

- On 17 February 1959, a Vickers Viscount Type 793, registration TC-SEV, operating a charter flight and carrying Turkish Prime Minister

Adnan Menderes and a governmental delegation to London for signing the London and Zurich Agreements crashed in dense fog on approach to London Gatwick Airport. Nine of the sixteen passengers and five of the eight crew lost their lives. Adnan Menderes, who was sitting in the back part of the aircraft, survived the accident.

- On 23 September 1961, Turkish Airlines Flight 835, a Fokker F27-100 registered as TC-TAY, crashed at Karanlıktepe in Ankara Province on approach to Esenboğa Airport, Ankara. All of the 4 crew and 24 of the 25 passengers on board were killed.

- On 8 March 1962, a Fairchild F-27, registration TC-KOP, crashed into Taurus Mountains on approach to Adana Şakirpaşa Airport. All three crew and all eight passengers on board died.

- On 3 February 1964, a Douglas C-47, registered as TC-ETI, on a domestic cargo flight, flew into terrain whilst on approach to Esenboğa Airport, Ankara. All three crew members on board were killed.

- On 2 February 1969, a Vickers Viscount Type 794, registered as TC-SET, crashed on approach to Esenboğa Airport. There were no casualties.

- On 26 January 1974, Turkish Airlines Flight 301, a Fokker F28-1000 registered as TC-JAO, crashed shortly after takeoff from Izmir Cumaovası Airport due to atmospheric icing on the wings. The aircraft disintegrated and caught fire, killing 4 of the 5 crew and 62 of the 68 passengers on board.

- On 3 March 1974, Turkish Airlines Flight 981, a McDonnell Douglas DC-10 registered as TC-JAV, crashed into Ermenonville Forest, Fontaine-Chaalis, Oise, France due to explosive decompression, killing all 335 passengers and 11 crew on board. The main cause was a design fault on the cargo doors of McDonnell Douglas DC-10. Prior to the Tenerife airport disaster, it was the deadliest aviation disaster in the world.

- On 30 January 1975, Turkish Airlines Flight 345, a Fokker F28-1000 registration TC-JAP, crashed into the Sea of Marmara during final approach to Istanbul Yeşilköy Airport. All 4 crew and all 38 passengers on board the aircraft were killed.

- On 19 September 1976, a Boeing 727-200 registered as TC-JBH operating Turkish Airlines Flight 452 from Istanbul Yeşilköy Airport to Antalya Airport, struck high ground in Karatepe Mountains during an attempted landing in Isparta instead of Antalya by pilot error. All 154 people on board the aircraft perished in the accident.

- On 23 December 1979, a Fokker F28-1000, registration TC-JAT, on a flight from Samsun-Çarşamba Airport to Esenboğa Airport struck a hill in Kuyumcuköy village at Çubuk, Ankara, 32 km (20 mi) north-east of its destination airport in severe turbulence. Three of the four crew and 38 of the 41 passengers on board were killed.

- On 16 January 1983, Turkish Airlines Flight 158, a Boeing 727-200 registered as TC-JBR, landed about 50 m (160 ft) short of the runway at Esenboğa Airport in driving snow, broke up and caught fire. All of the 7 crew survived; however, of the 60 passengers on board, 47 were killed.

- On 29 December 1994, Turkish Airlines Flight 278, a Boeing 737-400 registration TC-JES, crashed during its final approach to Van Ferit Melen Airport in driving snow. Five of the seven crew and 52 of the 69 passengers died.

- On 7 April 1999, Turkish Airlines Flight 5904, a Boeing 737-400 registered as TC-JEP on a repositioning flight, crashed near Ceyhan, Adana shortly after taking off from Adana Şakirpaşa Airport. There were no passengers on board, but all six crew members perished in the accident.

- On 8 January 2003, Turkish Airlines Flight 634, an Avro RJ-100 registration TC-THG, crashed on approach to Diyarbakır Airport, Turkey. Of the 80 people on board, 75 were killed.

- On 3 October 2006, Turkish Airlines Flight 1476 en route from Tirana, Albania to İstanbul was hijacked by Turkish citizen Hakan Ekinci in Greek airspace. The hijacker surrendered after a forced landing in Brindisi, Italy.

- On 25 February 2009, Turkish Airlines Flight 1951, a Boeing 737-800 registered as TC-JGE carrying 128 passengers and a crew of 7, crashed during final approach to Amsterdam Airport Schiphol, Netherlands. It was determined that a faulty radar altimeter caused the aircraft to throttle the engines back to idle and that the crew subsequently failed to react properly which resulted in an unrecoverable stall and the subsequent crash. Of the 135 people on board, nine people, including the three pilots, were killed. Eighty-six more people were transported to local hospitals.

- On 3 March 2015, Turkish Airlines Flight 726 departed the runway on landing at Tribhuvan International Airport, Kathmandu, Nepal. The Airbus A330-300 operating the flight, TC-JOC, was severely damaged when its nose gear collapsed, causing damage to the fuselage and both wings. All 227 passengers and 11 crew members on board escaped uninjured.

- On 25 April 2015, Turkish Airlines Flight 1878, an Airbus A320-200 TC-JPE was severely damaged in a landing accident at Ataturk International Airport, Istanbul. All on board were successfully evacuated without any injuries reported.

Appendix B Effect Scale

The effect scale created and was validated by Rice and Winter (2015).

Please respond how strongly you agree or disagree with the following statements:

1. How strongly do you feel like the image shown?

I do not feel this way at all.   Extremely feel this way.

2. How strongly do you feel like the image shown?

I do not feel this way at all.   Extremely feel this way.

3. How strongly do you feel like the image shown?

I do not feel this way at all.   Extremely feel this way.

4. How strongly do you feel like the image shown?

I do not feel this way at all.   Extremely feel this way.

5. How strongly do you feel like the image shown?

I do not feel this way at all.   Extremely feel this way.

6. How strongly do you feel like the image shown?

I do not feel this way at all.   Extremely feel this way.

Appendix C Airline Safety Scale

The airline scale created and validated by Rice, Oyman, and Mehta (2015) in previous researches.

Please respond how strongly you agree or disagree with the following statements:

1. The aircraft that the airline uses had appropriate emergency equipment.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

2. The aircraft that the airline uses was durable.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

3. The aircraft that the airline uses was mechanically sound.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

4. The aircraft that the airline uses had proper pressurization in the cabin.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

5. aircraft that the airline uses had proper safety equipment on board.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

6. The aircraft that the airline uses was safe.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

7. The aircraft that the airline uses was secure.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

8. The aircraft that the airline uses was well built.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

9. The aircraft that the airline uses was well maintained.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

Appendix D Willingness to Fly Scale

The willingness to fly scale was created and validated by previous research
(Rice, Mehta, Dunbar, Oyman, Ghosal, & Oni, 2015).

Please respond how strongly you agree or disagree with the following
statements:

1. I would be willing to fly with this airline.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

2. I would be comfortable flying with this airline.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

3. I would have no problem flying with this airline.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

4. I would be happy to fly with this airline.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

5. I would feel safe flying with this airline.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

6. I have no fear of flying with this airline.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

7. I feel confident flying with this airline.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

Appendix E IRB Approval

Florida Institute of Technology
Institutional Review Board

Notice of Exempt Review Status

From: Florida Tech Institutional Review Board
          FWA00014339, IRB00001690

To: Abdullah Selim Ozyurek

Date: September 21, 2015

IRB Number: 15-143

Study Title: An examination of how ratings of airlines are affected by different types of information: A mediation analysis

Dear Researcher:

Your research protocol was reviewed and approved by the IRB Chairperson. Per federal regulations, 45 CFR 46.101, your study has been determined to be minimal risk for human subjects and exempt from 45 CFR46 federal regulations and further IRB review or renewal unless you change the protocol or add the use of participant identifiers. This study is approved for one year from the above date. If data collection continues past this date, a Continuing Review Form must be submitted.

All data, which may include signed consent form documents, must be retained in a locked file cabinet for a minimum of three years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained on a password-protected computer if electronic information is used. Access to data is limited to authorized individuals listed as key study personnel.

The category for which exempt status has been determined for this protocol is as follows:

2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior so long as confidentiality is maintained.
   a. Information is recorded in such a manner that the subject cannot be identified, directly or through identifiers linked to the participant and/or
   b. Subject's responses, if know outside the research would not reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation.