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Development and Validation of the ITF scale: An investigation of Airline Passengers' Intention to Fly During a Global Disruption

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by

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Development and Validation of the ITF scale:
An investigation of Airline Passengers' Intention to Fly During a Global Disruption

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ABSTRACT

TITLE: Development and Validation of the ITF scale: An investigation of Airline Passengers' Intention to Fly During a Global Disruption

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The purpose of the current study was to develop and validate the ITF scale that measured airline passengers' intention to fly during a global disruption. Based on the review of the literature, the researcher identified several dimensions, and each dimension was measured by question items. The target population of the current study was airline passengers in the United States who were at least 18 years old. A sample was collected using the convenience sampling. The questionnaire was distributed online. The ITF scale was validated using data collected from the online questionnaire. A factor analysis was performed. The results of the factor analysis indicated that the ITF scale had three dimensions: attitude, subjective norms, and travel risk. The researcher assessed the convergent validity and discriminant validity of the ITF scale. The reliability of the ITF scale was examined using the Cronbach's α and Guttman split-half coefficient. The results indicated that the ITF scale had sufficient validity and reliability. As an application of the newly developed ITF scale, the researcher identified demographics groups that were more likely to fly during a global disruption.

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Dedication

For

Kathryn Creedy

Melbourne, Florida

Chapter 1

Introduction

Background and Purpose

 Background. The airline industry is an important part of the global economy. According to the International Civil Aviation Organization (ICAO), in 2019, commercial airlines carried 4.3 billion passengers, offered 48,500 routes, and scheduled 38 million flights worldwide. Breaking down to daily operations, commercial airlines had scheduled 100,000 flights, transported 12 million passengers, and flew 240,000 hours each day. The ICAO predicted that in 2036, commercial airlines will support 98.8 million jobs and carry a $5.7 trillion economic impact globally. In the United States, according to the report published by the Federal Aviation Administration (FAA), the airline industry accounted for 5.2% of the U.S. Gross Domestic Product (2020).

 Global events can pose threats to the growth of the airline industry. In the context of the current study, a global disruption was defined as an event that led to the decline of the air travel demands. A global disruption can be (a) a terrorist attack, such as the 9/11 terrorist attack, (b) a global pandemic, such as the COVID-19 pandemic, or (c) a financial crisis, such as the 2008 global financial crisis. Background statistics of the past global disruptions and their impacts on the airline industry are provided as follows.

 A terrorist attack can impact the airline industry. According to the Bureau of Transportation Statistics (BTS), in August 2001, the airline industry experienced an increase in travel demand, and August recorded the highest single month passenger enplanement in the

airline industry's history. In August 2001, 76.4 million passengers flew on the commercial airlines (BTS, 2012). On September 11, 2001, four airline planes were hijacked by the terrorists, and two airline planes crashed into the World Trade Center in New York City. The 9/11 terrorist attacked took away 2,977 lives (Morgan, 2009).

Following the 9/11 terrorist attacks, U.S. airline industry saw a 31.3% decrease in domestic travel and 9.1 billion revenue losses. Not until July 2004, did the monthly passenger enplanement recover to the pre-9/11 levels. Commercial airlines also modified their seating capacities in response to the terrorist attack. In August 2001, commercial airlines in the United States offered 90.6 million available seats in a single month. Following the 9/11 terrorist attack, commercial airlines in the United States only offered 67.5 million available seats in September 2001, and it took almost four years before the commercial airlines in the U.S. offered more available seats than August 2001 (BTS, 2012). Based on the background statistics, it was evident that a terrorist attack could disrupt the airline industry, and thus the current study included terrorist attacks as one of the three types of global disruptions.

A global pandemic can also impact the airline industry. The 2019 novel coronavirus (COVID-19) is a disease that can trigger respiratory tract infections. COVID -19 caused great disruption to the airline industry. Internationally, compared to 2019, in 2020, (a) seats offered by commercial airlines went down by 51%, and (b) global airline industry lost $391 billion in revenues (ICAO, 2021). Domestically, in North America, compared to 2019, in 2020, (a) domestic airline traffic was reduced by 41%, (b) airlines carried 522 million fewer domestic passengers, and (c) airlines suffered a $61 billion U.S. dollars loss in domestic operations. In Europe, compared to 2019, in 2020, (a) domestic airline traffic was reduced by 41%, (b) airlines

carried 145 million fewer domestic passengers, and (c) airlines suffered a $12 billion U.S. dollars loss in domestic operations.

In Middle East, compared to 2019, in 2020, (a) domestic airline traffic was reduced by 46%, (b) airlines carried 23 million fewer domestic passengers, and (c) airlines suffered a $2 billion U.S. dollars loss in domestic operations. In Latin American, compared to 2019, in 2020, (a) domestic airline traffic was reduced by 53%, (b) airlines carried 134 million fewer domestic passengers, and (c) commercial airlines suffered a $11 billion U.S. dollars loss in domestic operations. In Africa, compared to 2019, in 2020, (a) domestic airline traffic was reduced by 46%, (b) airlines carried 23 million fewer domestic passengers, and (c) commercial airlines suffered a $2 billion U.S. dollars loss in domestic operations. In Asia and Pacific, compared to 2019, in 2020, (a) domestic airline traffic was reduced by 35%, (b) airlines carried 569 million fewer domestic passengers, and (c) commercial airlines suffered a $39 billion U.S. dollars loss in domestic operations.

Based on the background statistics, it was evident that a global pandemic, such as the COVID-19 pandemic, can cause a major disruption to the airline industry. Other historic global pandemics also caused disruptions to the airline industry. Based on the IATA's economic report, SARS (2003), Avian Flu (2013), and MERS Flu (2015) all caused great disruptions to the airline industry (2020), and thus the current study included global pandemics as one of the three types of global disruptions.

A global financial crisis can also disrupt the airline industry. The 2008 financial crisis led to a slowdown of growth in the airline industry. Based on the report of Centre for Asia Pacific Aviation (CAPA), compared to October 2008, in Oct 2009, (a) the African airline industry saw a

2.6% decline in passenger traffic, (b) the European airline industry saw a 3% decline in passenger traffic and a 6.2% reduction of seats offered, (c) the Asia Pacific airline industry saw a 5.6% reduction in seats offered, and (d) the North America airline industry saw a 2.6% decrease in air traffic and 6.9% reduction in seats offered (2009). The IATA estimated that the global airline industry suffered a $280 billion U.S. dollars losses in revenue due to the 2008 financial crisis (2018). It was evident that a global financial crisis can cause major disruptions to the airline industry, and thus the current study included global financial crisis as one of the three types of global disruptions.

Prior literature also provided some background information of the airline industry during a global disruption. Sobieralski (2020) indicated that Covid-19 had reduced the airline workforce by 13%. Maneenop and Kotcharin (2020) investigated airline financial loss by comparing the difference between the airline market value and fair value. In simple terms, fair value was an estimate of the potential market value, while market value was the actual worth of an airline. In March 2020, (a) Air Canada worth $2,928 million in market value and $5,531 million in fair value, (b) Air China worth $12,102 million in market value and $22,968 million in fair value, (c) United Airlines worth $7,822 million in market value and $17,187 million in fair value.

As air travel demands fluctuated during a global disruption, the current study aimed to understand airline passengers' intention to fly during a global disruption. The Intention to Fly (ITF) scale, was developed and validated. When the next global disruption happens, airlines can use the newly developed ITF scale to understand airline passengers' intention to fly during a global disruption.

Purpose. The current study's purpose was to develop and validate the ITF scale, so airline passengers' intention to fly during a global disruption can be measured. There were several steps in scale development and validation. The researcher identified multiple dimensions from the literature. Question items were designed based on the prior studies. Modifications were made to reflect the context of the current study. Five dimensions were identified: attitude, perceived behavioral control, subjective norms, travel risk, and international travel, as shown in Figure 1.1. The newly developed scale went through a rigorous validation process. Several statistical procedures were performed to evaluate the validity and reliability of the ITF scale. Additionally, the researcher used the newly developed ITF scale to target demographics that were more likely to fly during a global disruption.
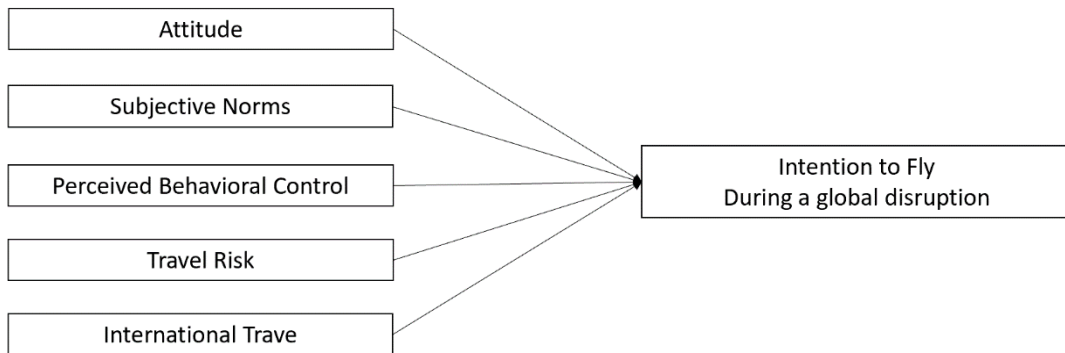
Figure 1. 1 - *ITF Scale Dimensions*

Definition of Terms

The key terms of the current study were defined operationally as follows:

1. *Airline passengers* referred to individuals who have traveled on a commercial airline in the past. Examples of a commercial airline included but not limited to Delta Air

Lines, Southwest Airlines, and SkyWest Airlines. The current study only included airline passengers who were at least 18 years old.

2. *Attitude* referred to the extent to which an airline passenger had a favorable or unfavorable perception towards flying during a global disruption. Three question items were developed to measure participants' attitude. Each question item can be answered on a five-point Likert-type scale from "strongly disagree" to "strongly agree." An example question item was, "I like the idea of flying during a global disruption"

3. *Subjective norms* referred to the extent to which flying during a global disruption was supported by airline passengers' friends and family members. Two question items were developed to measure the subjective norms. Each question item can be answered on a five-point Likert-type scale from "strongly disagree" to "strongly agree." An example question item was, "My friends will think negatively of me if I fly during a global disruption."

4. *Perceived behavioral control* referred to the extent to which airline passengers believed that they had the ability and resource to fly during a global disruption. Three question items were developed to measure participants perceived behavioral control. Each question item can be answered on a five-point Likert-type scale from "strongly disagree" to "strongly agree." An example question item was, "I am capable of flying during a global disruption."

5. *Travel risk* referred to the extent to which traveling during a global disruption was viewed as risky. Two question items were developed to measure the travel risk. Each question item can be answered on a five-point Likert-type scale from "strongly

disagree" to "strongly agree." An example question item was, "I will fly when airlines have resumed flight operations."

6. *International travel* referred to the extent to which flying internationally was viewed as risky. Two question items were developed to measure the destination risk. Each question item can be answered on a five-point Likert-type scale from "strongly disagree" to "strongly agree." An example question item was, "International destinations are as safe as the domestic destinations."

7. *Intention to fly* referred to the extent to which airline passengers intended to fly during a global disruption. The purpose of the current study was to create a scale that measured participants' intention to fly during a global disruption. Participants' overall intention to fly was measured to establish the construct validity of the ITF scale. Participants rated their overall intention: "I intend to fly during a global disruption." Participants can answer the overall intention question item on a five-point Likert-type scale from "strongly disagree" to "strongly agree."

8. *Age* was measured continuously. The question item for participants' age was, "How old are you?"

9. *Gender* was measured categorically. The question item for participants' gender was, "What is your gender?" Participants can choose from "Male", "Female", or "I do not wish to say."

10. *Travel frequency* was measured continuously. The question item for participants' travel frequency was, "How many times did you fly in 2020?"

11. *Income* was measured categorically. The question item for participants' income was, "What was your income in 2020?" Participants can choose their answer from "Below

$9,876," "$9,876 to $40,125," "$40,126 to $85,525," "$85,526 to $163,300,"

"$163,301 to $207,350," or "Over $207,350."

12. Educational level was measured categorically. The question item for participants'

educational level was, "What is the highest formal education that you have received?"

Participants can choose from "none", "high school", "trade school," "2-year college",

"4- year college", or "graduate degree."

Research Questions and Hypotheses

Research Questions.

Research questions of the current study were as follows:

1. What are the dimensions in the ITF scale?

2. What is the relationship between airline passengers' age and their ITF score?

3. What are the ITF score differences among airline passengers of different genders?

4. What are the ITF score differences among airline passengers of different incomes?

5. What is the relationship between airline passengers' travel frequency and their ITF

    score?

6. What are the ITF score differences among airline passengers of different educational

    levels?

Null Hypotheses.

Null hypotheses of the current study were as follows:

1. The relationship between airline passengers' age and their ITF score is insignificant.

2. The ITF score differences among airline passengers of different genders are insignificant.

3. The ITF score differences among airline passengers of different incomes are insignificant.

4. The relationship between airline passengers' travel frequency and their ITF score is insignificant.

5. The ITF score differences among airline passengers of different educational levels are insignificant.

Alternative Hypotheses.

Alternative hypotheses of the current study were as follows:

1. The relationship between airline passengers' age and their ITF score is significant.

2. The ITF score differences among airline passengers of different genders are significant.

3. The ITF score differences among airline passengers of different incomes are significant.

4. The relationship between airline passengers' travel frequency and their ITF score is significant.

5. The ITF score differences among airline passengers of different educational levels are significant.

Study Design

The purpose of the current study was to create and validate a new scale. Parasuraman (1991) indicated that exploratory research was appropriate for understanding vaguely defined or undefined concepts and problems. The current study was informed by Churchill's (1979) scale development framework, which was a type of exploratory research. A depiction of Churchill's (1979) framework can be found in Figure 1.2.

The researcher of the current study used a questionnaire to measure airline passengers' intention to fly during a global disruption. Compared to qualitative data collection, Hair, Black, Babin, and Anderson (2010) indicated that a questionnaire provided standardized measurement for all participants. The questionnaire was published on Qualtrics, and the Qualtrics link was distributed to the participants via Amazon Mechanical Turk (MTurk). Prior literature supported the validity of data collection through MTurk (Clifford, Jewell, and Waggoner, 2015).

Participants responded to the questionnaire. Based on participants' responses, the researcher assessed the reliability and validity of the scale. Modifications might be necessary in the scale validation process. Research hypotheses were tested, decisions to retain or reject the null hypotheses were reached.

The researcher also used the newly developed ITF scale to target demographics that were more likely to fly during a global disruption. A correlation analysis was performed between participants' ITF score and their age. A t-test was used to understand whether participants of different genders scored on the ITF scale differently. A correlation analysis was also performed between participants' ITF score and their travel frequency. An ANOVA was used to understand whether participants of different incomes scored on the ITF scale differently. An ANOVA was

also used to understand whether participants of different educational levels scored on the ITF scale differently.
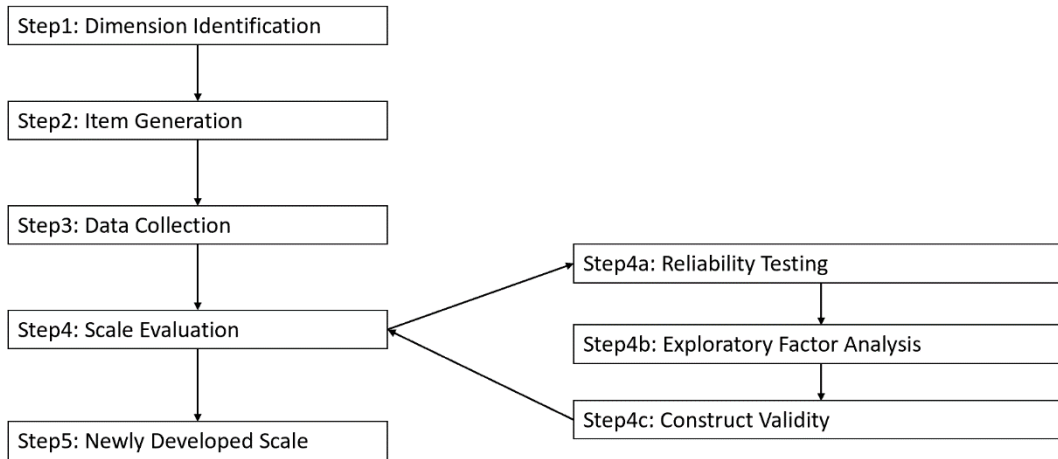
Figure 1. 2 - *Scale development and validation*

Significance of the Study

The current study had practical significance. The airline industry can be impacted by different events. As mentioned in the background section, a terrorist attack, a pandemic, or a financial crisis can all cause disruptions to the airline industry. The newly developed scale can help airlines understand airline passengers' intention to fly during a global disruption. The researcher also used the newly developed ITF scale to target demographics that were more likely to fly during a global disruption. Airlines can inform their marketing and policymaking based on the findings of the current study.

The current study had theoretical significance. The current study was grounded in multiple theories. Grounded in Ajzen's (1991) theory of planned behavior, intention was measured through attitude, subjective norms, and perceived behavioral control. Grounded in Norman, Boer, and Seydel's (2005) protection motivation theory, intention was measured

through travel risk and international travel. There was no scale in the literature that measured airline passengers' intention to fly during a global disruption. The results and findings of the current study filled the gap in the literature.

Study Limitations and Delimitations

The current study had several limitations and delimitations. Limitations referred to conditions that were outside of the researcher's control. The limitations cannot be determined by the researcher. Delimitations referred to conditions that were decided by the researcher. To ensure the scope and feasibility of the study, the researcher imposed certain delimitations. As both limitations and delimitations could impact the generalizability of the current study's findings, results should be interpreted with the context of the limitations and delimitations.

Limitations. The current study had several limitations:

1. Sample representativeness. The current study used an online questionnaire for data collection. The online questionnaire was hosted by Qualtrics, and a link to the online questionnaire was generated by Qualtrics. The questionnaire link was distributed to the participants through the MTurk. Although the researcher decided to use MTurk for data collection, the researcher did not have control over who participated in the current study until the data collection was concluded. For example, if only one participant went to trade school, the representativeness of the results and findings might have limited generalizability towards airline passengers who went to trade schools. Thus, the representativeness of the sample was one of the current study's limitations.

2. Personality trait. The current study aimed to develop and validate a scale. Question items in the scale can be measured on a five-point Likert-type scale from "strongly disagree" to "strongly agree." It was possible that participants answered the Likert-type scale differently. Specifically, the agreeableness personality trait might influence a participant's response. For example, a participant with low agreeable personality trait might rate "strongly disagree" on more question items. The current study was conducted anonymously. The researcher did not know participants' personality. Thus, the agreeableness personality trait of the sample was one of the current study's limitations.

3. Self-reporting. The current study used an online questionnaire for data collection. The researcher was not present during the questionnaire administration. Participants might rush through the questionnaire. The researcher cannot control the manner in which participants answered the questionnaire. Thus, the self-reporting was one of the current study's limitations.

Delimitations. The current study had several delimitations:

1. Study period. The researcher decided the study period. The online questionnaire was available on MTurk until the pre-determined sample size was reached. The researcher was aware that data collection happened during the COVID-19 pandemic. Recommendations were made that future research can replicate the current study and collect data during a non-pandemic study period.

2. Instrument. The current study adopted Churchill's (1979) scale development and validation process. The ITF scale consisted of 12 question items representing five dimensions. Question items were developed based on the prior literature, and modifications were made to

reflect the context of the current study. The instrument was also reviewed by multiple faculty members at the Florida Institute of Technology.

3. Sampling strategy. The researcher decided to use the convenience sampling for data collection. The convenience sampling implied that data was collected based on participants' availability. The current study's target population was airline passengers who were at least 18 years old. MTurk allowed the researcher to access a large pool of participants who fitted into the sample selection criteria.

4. Target sample. The researcher focused on airline passengers from the United States. Input of airline passengers from other countries might also be valuable. To control the difference between different countries of origin, the researcher decided to only collect data from the United States.

Chapter 2

Review of Related Literature

Introduction

Chapter 2 includes three main sections. The first main section provides a discussion of underlying theories. The second main section includes reviews of the prior literature. The third main section is a summary of the results and findings from the prior research. The implications of the prior research and how they can relate to the current study are also provided in the third main section.

Overview of Underlying Theory

The purpose of the current study was to measure airline passengers' intention to fly during a global disruption. Based on Churchill's (1979) recommendation, scale development and validation involved multiple steps. A scale may consist of multiple dimensions. The first step of the scale development was to identify the dimensions of a scale.

The researcher of the current study identified five dimensions for the ITF scale. Grounded in Ajzen's (1991) theory of planned behavior, attitude, subjective norms, and perceived behavioral control were identified to measure airline passengers' intention to fly during a global disruption. Grounded in Norman et al.'s (2005) protection motivation theory, travel risk and international travel were identified to measure airline passengers' intention to fly during a global disruption. Descriptions of Ajzen's (1991) theory of planned behavior and Norman et al.'s (2005) protection motivation theory are provided in this section.

Theory of Planned Behavior. Ajzen's (1991) theory of planned behavior provided theoretical groundings for the measurement of intention. According to the theory of planned behavior, intention can be measured through attitude, subjective norms, and perceived behavioral control. A depiction of the theory of planned behavior can be found in Figure 2.1. Constructs from the theory of planned behavior are defined as follows.
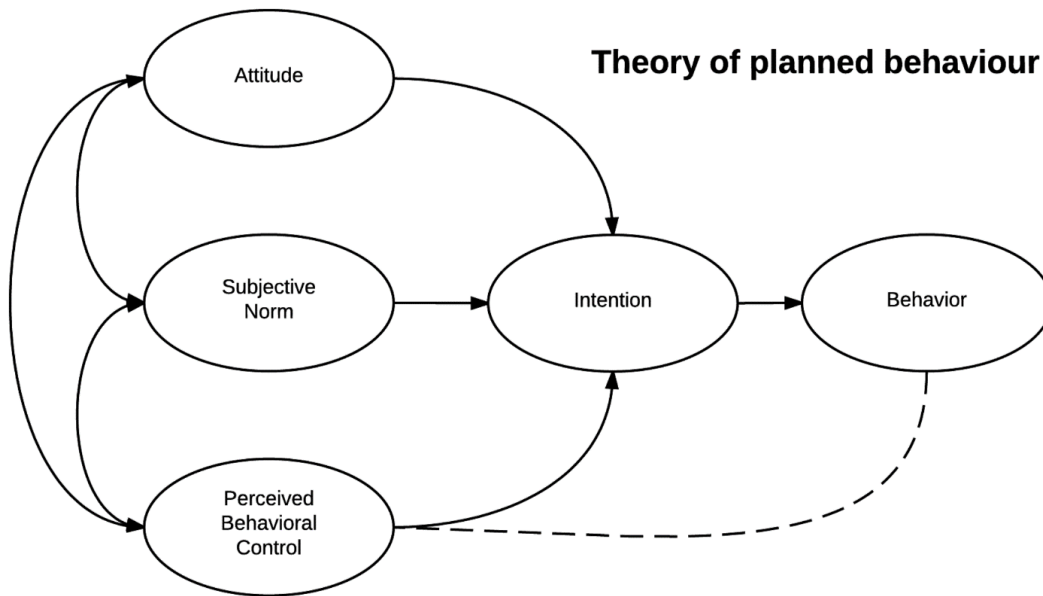
Figure 2. 1 - *The theory of planned behavior*

Attitude. In the theory of planned behavior, attitude referred to the extent to which a person had a favorable or unfavorable perception towards a behavior. A person's intention can be understood by his or her attitude (Ajzen, 1991). In the context of the current study, airline passengers' intention to fly during a global disruption can be measured through airline passengers' attitude. Several prior studies used attitude to understand airline passengers' travel intentions.

In the literature, attitude was measured by question items. The current study adopted the same approach. The attitude dimension was measured by three question items: (a) "Flying during

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a global disruption is okay," (b) "I like the idea of flying during a global disruption," and (c) "It is okay to fly during a global disruption." Each of the question items can be answered on a five-point Likert-type scale with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree."

Subjective Norms. In the theory of planned behavior, subjective norms referred to the extent to which a behavior was supported and approved by a person's friends and family members. Intention can be understood through subjective norms (Ajzen, 1991). In the context of the current study, airline passengers' intention to fly can be measured the subjective norms of flying during a global disruption. In the literature, multiple studies used subjective norms to examine intention.

Question items were developed to measure the subjective norms of flying during a global disruption. The current study's researcher used two question items to measure the subjective norms dimension: (a) "My friends will think negatively of me if I fly during a global disruption," and (b) "My family will think negatively of me if I fly during a global disruption." Both question items were reverse-coded. Each of the question items can be answered on a five-point Likert-type scale with 1 being "strongly agree," 2 being "agree," 3 being "neutral," 4 being "disagree," and 5 being "strongly disagree."

Perceived Behavioral Control. In the theory of planned behavior, perceived behavioral control referred to a person's perception of their own ability to perform a behavior (Ajzen, 1991). In the context of the current study, airline passengers' intention to fly can be measured through airline passengers' perception of their abilities to fly during a global disruption. In the

literature, several studies examined airline passengers' travel intention through airline passengers' perceived behavioral control.

Airline passengers' perceived behavioral control can be measured by question items. The researcher of the current study used three question items to understand airline passengers' perceived behavioral control: (a) "I have the ability to fly during a global disruption," (b) "I am capable of flying during a global disruption," and (c) "It is easy to fly during a global disruption." Each of the question items can be answered on a five-point Likert-type scale with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree."

Intention. In the theory of planned behavior, intention referred to the extent to which a person was ready to perform a given behavior (Ajzen, 1991). The researcher of the current study aimed to measure airline passengers' intention to fly during a global disruption. The theory of planned behavior provided groundings for the measurement of intention. Based on the theory of planned behavior, three dimensions were identified: attitude, subjective norms, and perceived behavioral control. Additional dimensions were identified through the protection motivation theory. Following is a description of the protection motivation theory.

Protection Motivation Theory. Norman et al.'s (2005) protection motivation theory also provided groundings for the measurement of intention. Based on the protection motivation theory, intention can be measured by threat appraisal. Following is a description of the constructs in the protection motivation theory.

Threat Appraisal. In the protection motivation theory, threat appraisal referred to an assessment of risk level of a behavior. In the context of the current study, an airline passenger's

threat appraisal of flying during a global disruption can indicate their intention to fly. Specifically, two types of risks were measured in the ITF scale: travel risk and international travel. As the risk level increased, a person's intention to perform the behavior decreased. Airline passengers' intention to fly during a global disruption decreased with higher evaluations of travel risk and international travel.

Travel risk referred to the extent to which flying was viewed as risky by airline passengers. The travel risk dimension was measured by two question items: (a) "I will fly when airlines have resumed flight operations," and (b) "I will fly if airlines have available flights." Question items can be answered on the five-point Likert-type scale with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree."

International travel referred to the extent to which flying internationally was viewed as risky by airline passengers. The international travel dimension was measured by two question items: (a) "International destinations are as safe as the domestic destinations," and (b) "Domestic destinations are as safe as the international destinations." Question items can be answered on the five-point Likert-type scale with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree."

Protection Motivation. In the protection motivation theory, protection motivation was defined as a person's intention to engage in a protective behavior (Norman et al., 2005). In the context of the current study, protection motivation corresponded to the intention measurement. In the literature, intention was measured using question items. The researcher of the current study adopted a similar approach. Participants' overall intention was measured by a question item: "I intend to fly during a global disruption." Participants can answer the question item using a five-

point Likert-type scale with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree."

The purpose of measuring the overall intention was to assess the construct validity of the question items. If the ITF scale was indeed measuring airline passengers' intention to fly during a global disruption, every dimension in the newly developed ITF scale should be significantly correlated with participants' overall dimension.

The other type of construct validity was discriminant validity. The newly developed ITF scale should differentiate airline passengers who intended to fly from airline passengers who did not intend to fly. The researcher used a question item to understand participants' overall intention to fly during a global disruption: "Will you fly during a global?" Participants can answer the question item with either "yes" or "no." The mean ITF score difference between participants who answered "yes" and who answered "no" would indicate whether the ITF scale can detect whether an airline passenger intended to fly during a global disruption. A series of t-tests would be performed to understand the significance of the mean differences across the dimensions.

In summary, the current study aimed to understand airline passengers' intention to fly during a global disruption. Dimensions were identified through the theory of planned behavior and protection motivation theory. Specifically, airline passengers' intention to fly can be measured by attitude, subjective norms, perceived behavioral control, travel risk, and international travel. Several prior studies supported the research design of the current study. The following is a review of prior studies.

Review of Prior Studies

This section includes research relevant to airline passengers' intention to fly. Results and findings from the prior research are provided. The question item design was informed by prior studies.

Nguyen and Coca-Stefaniak (2020) examined airline passengers' post-pandemic travel planning. Nguyen and Coca-Stefaniak's (2020) study was grounded in the theory of planned behavior. Post-pandemic travel planning was examined through attitude, subjective norm, and perceived behavioral control. Nguyen and Coca-Stefaniak's (2020) administered their questionnaire via WeChat, and participants were from mainland China. Data was collected using an online questionnaire. The researcher included 969 questionnaire responses for the data analysis. The results suggested that post-pandemic travel intention was significantly correlated with attitude, subjective norm, and perceived behavioral control.

In the context of the current study, the researcher's decision to measure intention through attitude, subjective norms, and perceived behavioral control was supported by Nguyen and Coca-Stefaniak's (2020) findings. Question items used in Nguyen and Coca-Stefaniak's (2020) study informed the question item design of the current study. In Nguyen and Coca-Stefaniak's (2020) study, attitude was measured by two question items: (a) "Once this epidemic is over, I believe it is still a good idea to go on holiday to the city I intended on visiting," and (b) "Once this epidemic is over, I would be excited about going on holiday to the city I intended on visiting (Nguyen & Coca-Stefaniak, 2020, p. 2)." The subjective norms were measured by two question items: (a) "Once this epidemic is over, we intend on going on holiday to the destination we had chosen to visit originally," and (b) "Once this epidemic is over, my friends and colleagues intend

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on going on holiday to the destination they had chosen to visit originally (Nguyen & Coca-Stefaniak, 2020, p. 2)." The perceived behavioral control was measured by two question items: (a) "Once this epidemic is over, I will remain financially able to go on holiday in the city I intended on visiting," (b) "Once this epidemic is over, I will continue to have availability in my schedule to go on holiday in the city I intended on visiting originally (Nguyen & Coca-Stefaniak, 2020, p. 2)."

Rather (2021) investigated tourists' revisit intention during COVID-19 pandemic. In the tourism industry, many customers had abandoned or postponed their travel plans due to the COVID-19 pandemic. The revisit intention was defined as the extent to which a tourist wanted to resume their past travel plans. In Rather's (2021) study, revisit intention was examined through attitude and customer brand engagement.

Rather (2021) collected data using a questionnaire, and 318 responses were recorded. Participants were from India. The results suggested that tourists' revisit intention was significantly correlated with both attitude and brand engagement. In the context of the current study, the researcher's decision to measure intention through attitude was supported. Although the current study recruited participants from the U.S., the research design and question items from Rather's (2021) research still informed the current study. In Rather's (2021) study, attitude was measured by four question items: (a) "Travelling would be useful in the short/medium term during the current situation", (b) "It would be valuable to travel in the short/medium term during the current situation", (c) "Travelling would be beneficial in the short/medium term during the current situation", and (d) "Travelling would be attractive in the short/medium term during the current situation (Rather, 2021, p. 4)."

Qiao, Zhao, Xin, and Kim (2021) investigated Korean residents' intention to travel to China post-pandemic. Grounded in the theory of planned behavior, intention was examined through attitude, subjective norm, and perceived behavioral control. With the specific context of COVID-19 pandemic, Qiao et al. (2021) included concerns, media influence, positive emotion, and negative emotion into the model. Data was collected using a questionnaire. Qiao et al. (2021) included 314 responses for data analysis. The results indicated that travel intention was significantly correlated with attitude, subjective norm, perceived behavioral control, media influence, positive emotion, and negative emotion.

Because participants from Qiao et al.'s (2021) research were from Korean, the population generalizability of the results and findings might be limited. Nevertheless, the current study was still informed by Qiao et al. (2021). The current study's decision to ground the scale in the theory of planned behavior was supported. Question items used in Qiao et al.'s (2021) study informed the question item design of the current study.

Attitude was measured by four question items: (a) "Travelling to China is not a positive thing," (b) "Travelling to China is not good for me," (c) "Travelling to China is not attractive to me," and (d) "Travelling to China is not worthwhile for me (Qiao et al., 2021, p. 14)." Subjective norms were measured by three question items: (a) "My family does not support my travelling to China," (b) "My friends do not support my travelling to China," and (c) "Nobody wants to travel with me to China (Qiao et al., 2021, p. 14)." Perceived behavioral control was measured by three question items: (a) "My budget is not enough to support my travel to China," (b) "I do not have enough spare time to travel to China," and (c) "My health problems prevent me from travelling to China (Qiao et al., 2021, p. 14)."

Bae and Chang (2020) investigated Korean tourists' travel intention during the COVID-19 pandemic. Informed by the theory of planned behavior, Korean tourists' travel intention was examined through attitude, subjective norms, and perceived behavioral control. Cognitive risk perception and affective risk perception were also included in the model. Data was collected using a questionnaire. Bae and Chang (2020) included 877 responses for the data analysis. The results indicated that travel intention was significantly correlated with subjective norms and perceived behavioral control.

Even though the target population differed, results and findings from Bae and Chang's (2020) study still contributed to the current study. In the context of the current study, the decision to collect data using a questionnaire was supported. The decision to include subjective norms and perceived behavioral control in the measurement of intention was also supported. Bae and Chang (2020) incorporated the risk assessment in their research. Similarly, with an aviation context, the researcher of the current study assessed the travel risk and international travel.

Question items used in Bae and Chang's (2020) study informed the question item design of the current study. "Untact" was a Korean word for no-contact, and "untact" was directly quoted from Bae and Chang's (2020) research. Attitude was measured by four question items: (a) "Untact tourism is useful," (b) "Untact tourism is valuable," (c) "Untact tourism is beneficial," and (d) "Untact tourism is attractive (Bae & Chang, 2020, p. 10)." Subjective norms were measured by four question items: (a) "Most people who are important to me think it is okay for me to engage in untact tourism," (b) "Most people who are important to me support that I engage in untact tourism," (c) "Most people who are important to me understand that I engage in untact tourism," and (d) "Most people who are important to me agree with me about engaging in untact tourism (Bae & Chang, 2020, p. 10)." Perceived behavioral control was measured by four

question items: (a) "Whether or not I travel using untact tourism is completely up to me," (b) "I am capable of engaging in untact tourism," (c) "I am confident that if I want to, I can engage in untact tourism," and (d) "I have enough resources, time, and opportunities to engage in untact tourism (Bae & Chang, 2020, p. 10)."

Perić, Dramićanin, and Conić (2021) investigated Serbian tourists' travel intention during the COVID-19 pandemic. Grounded in the protection motivation theory, Serbian tourists' travel intention was examined through travel risk, destination risk, and health risk. The study period was between May 18, 2020 and May 24, 2020. Questionnaire responses from 348 Serbian tourists were included for the data analysis. Results indicated that travel intention was significantly correlated with travel risk and health risk.

Although Perić et al.'s (2021) study had limited generalizability to the current study due to difference in target population, the researcher of the current study was still informed. In the context of the current study, the researcher's decision to include travel risk and international travel in the measurement of intention was supported. Perić et al.'s (2021) measured destination risk using several question items: (a) "I feel it would be very comfortable to travel now," (b) "Traveling to natural areas like national parks is not risky," (c) "Visits to museums and other tourist attractions are not risky," (d) "Visits to swimming pools and other water attractions are not risky," and (e) "Traveling near the place of residence is not risky (p. 10)." Travel risk was measured by three question items: (a) "Due to COVID-19, I will avoid traveling in organized groups," (b) "Due to COVID-19, I will use only my own transport for the trip," (c) "Due to COVID-19, I will not use air transport for travel (Perić et al., 2021, p. 10)."

Sembada and Kalantari (2020) investigated Indonesian tourists' travel intention during the COVID-19 pandemic. Indonesian tourists' travel intention was examined through perceived behavioral control, travel destination, and risk perception. Data collection was achieved through a questionnaire. The study period was in mid-February 2020, and 206 questionnaire responses were included for data analysis. The results indicated that travel intention was significantly correlated with travel destination.

The results and findings from Sembada and Kalantari's (2020) study contributed the current study. In the context of the current study, the researcher's decision to include international travel in the measurement of intention was supported. The decision to collect data using a questionnaire was also supported.

Farooq, Laato, and Islam (2020) investigated people's intention to self-isolate during the COVID-19 pandemic. Unlike other studies that had been reviewed so far, Farooq et al. (2020) aimed to understand people's intention to self-isolate. Grounded in the protection motivation theory, a person's self-isolation intention was explained by perceived severity, perceived vulnerability, self-efficacy, response efficacy, and response cost. University faculty members, staff, and students from Finland were included for the data collection. The results indicated that people's intention to self-isolate was significantly correlated with perceived severity, self-efficacy, and response cost.

Although the current study aimed to study airline passengers' intention to fly instead of people's intention to self-isolate, Farooq et al.'s (2020) results and findings still contributed to the current study. In the context of the current study, the researcher's decision to ground the

study in the protection motivation theory was supported. To reflect the context of the current study, aviation-specific dimensions were added to the measurement of intention.

Farooq et al.'s (2020) question items informed the researcher of the current study. Self-efficacy was measured by question items: (a) "I am able to take avoidant measures if I want to," (b) "Taking avoidant measures is difficult for me," and (c) "Avoidant measures are easy to take (Farooq et al., 2020, p. 6)." Response efficacy was measured by two question items: (a) "The avoidant measures are a good way of reducing the risk of contracting COVID-19," (b) "The avoidant measures reduce my chance of catching the COVID (Farooq et al., 2020, p. 6)."

Floyd, Gibson, Pennington-Gray, and Thapa (2004) investigated American tourists' travel intention immediately following the 9/11 terrorist attack. Grounded in the protection motivation theory, American tourists' travel intention was examined through travel risk, destination risk, safety concerns, and international travel. The current study aimed to measure airline passengers' intention to fly during a global disruption. The researcher included terrorist attack as one of the global disruption events. Question item design from Floyd et al.'s (2004) research contributed to the current study.

In Floyd et al.'s (2004) research, travel risk was measured by four question items: (a) "I feel nervous about traveling right now," (b) "Traveling is risky now," (c) "Because of terrorism large theme parks should be avoided," and (d) "I would feel very comfortable traveling right now (p. 28)." Destination risk was measured by four question items: (a) "Travel to natural areas such as national parks is not risky," (b) "Trips to natural area scenic attractions are safe right now," (c) "Vacation travel is perfectly safe," and (d) "Visiting art galleries/ museums are safe tourist activities (Floyd et al., 2004, p. 28)." Safety concerns were measured by three question items: (a)

"Safety is the most important attribute a destination can offer," (b) "Safety is a serious consideration when choosing a travel destination," and (c) "Additional security measures at airports make traveling safe (Floyd et al., 2004, p. 28)." International travel was measured by two question items: (a) "International travel is just as safe as domestic travel," and (b) "Domestic travel is just as risky as international travel (Floyd et al., 2004, p. 28)."

Wachyuni and Kusumaningrum (2020) investigated the effect of COVID-19 on people's travel intention. Grounded in the theory of planned behavior, people's travel intention was examined through attitude, subjective norms, and perceived behavioral control. Data was collected using a questionnaire. Results indicated that people's travel intention was significantly correlated with attitude and perceived behavioral control.

In the context of the current study, the decision to ground the measurement of intention using the theory of planned behavior was supported. Question items from Wachyuni and Kusumaningrum's (2020) research informed the question item design of the current study. Attitude was measured by three question items: (a) "Taking a tour after the pandemic ends is fun," (b) "Taking a tour after the pandemic ends is not fun but scary," and (c) "Going on a tour after a pandemic will be more troublesome than usual (Wachyuni & Kusumaningrum, 2020, p. 73)." Perceived behavioral control was measured by two question items: (a) "After this pandemic ends, I will go on a tour whenever I want," and (b) "After this pandemic ends, I will travel wherever I want (Wachyuni & Kusumaningrum, 2020, p. 73)."

Before the COVID-19 pandemic, 2009 H1N1 influenza had also caused disruptions to the airline industry. Lee, Song, Bendle, Kim, and Han (2012) investigated people's intention to travel internationally during the 2009 H1N1 influenza pandemic. People's travel intention was

studied through attitude, subjective norm, perceived behavioral control, and emotion. A questionnaire was used for data collection. The results indicated that people's intention to travel internationally during the 2009 H1N1 influenza pandemic was significantly correlated with attitude and subjective norms.

The current study was informed by Lee et al.'s (2012) study. The current study was also grounded in the theory of planned behavior. A questionnaire was used for data collection. Question items developed by Lee et al. (2012) informed the question items design of the current study. Attitude was measured by seven question items: (a) "I think that traveling internationally is positive," (b) "I think that traveling internationally is useful," (c) "I think that traveling internationally is valuable," (d) "I think that traveling internationally is dynamic," (e) "I think that traveling internationally is attractive," (f) "I think that traveling internationally is enjoyable," and (g) "I think that traveling internationally is delightful (p. 97)." Subjective norms were measured by five question items: (a) "Most people who are important to me think it is okay for me to travel internationally," (b) "Most people who are important to me support that I travel internationally," (c) "Most people who are important to me understand that I travel internationally," (d) "Most people who are important to me agree with me about traveling internationally," and (e) "Most people who are important to me recommend traveling internationally (Lee et al., 2012, p. 97)." Perceived behavioral control was measured by six question items: (a) "Whether or not I travel internationally is completely up to me," (b) "I am capable of traveling internationally," (c) "I am confident that if I want, I can travel internationally," (d) "I have enough resources (money) to travel internationally," (e) "I have enough time to travel internationally," and (f) "I have enough opportunities to travel internationally (Lee et al., 2012, p. 97)."

The researcher included multiple hypotheses on the relationship between airline passengers' intention to fly during a global disruption and airline passengers' demographics. Reisinger and Crotts (2009) examined the influence of gender on travel risk perceptions, safety, and travel intentions, and the results indicated that travel intention differed between males and females. In the context of the current study, due to the gender differences in the risk perception, safety, and travel intention, male airline passengers might score differently on the ITF scale than female airline passengers, and thus a research hypothesis was included to understand if there was a gap between males and females in terms of flying during a global disruption.

Burlacu, Mavrichi, Crisan-Dabija, Jugrin, Buju, Artene, and Covic (2021) investigated the self-isolation of older individuals during the COVID-19 pandemic. Burlacu et al. (2021) suggested that older individuals had higher levels of fear of contracting COVID-19, and thus they were more likely to self-isolate. In the context of the current study, airline passengers who were older might be more likely to engage in self-isolation and thus had lower intention to travel during a global disruption. Therefore, the researcher included a research hypothesis to examine the relationship between age and airline passengers' intention to fly during a global disruption.

Bashir, Benjiang, and Shahzad (2020) examined COVID-19's impact on people's socio-economic status. Bashir et al. (2020) suggested that COVID-19 had disproportionate negative impacts on individuals with lower socio-economic status. In the context of the current study, airline passengers who had higher levels of education and incomes might be better equipped to fly during a global disruption. Thus, the researcher hypothesized that there would be significant differences among airline passengers of different educational background and income levels in terms of their intention to fly during a global disruption.

Neuburger and Egger (2021) examined airline passengers' travel risk perception during the COVID-19 pandemic. The results suggested hat airline passengers who flew more frequently in the past had lower level of travel risk perception and lower likelihood of canceling their flights due to COVID-related reasons. In the context of the current study, airline passengers who had flown more frequently in the past might have a lower level of risk perception towards flying during a global disruption. Therefore, the researcher included a research hypothesis to examine the relationship between travel frequency and airline passengers' intention to fly during a global disruption.

Summary

Following Churchill's (1979) scale development framework, the first step of scale development was to identify the dimensions in the scale. Based on the review of theories and prior studies, five dimensions were identified. The second step for the scale development was to generate question items. Question items from the prior research informed the question item design of the current study, and 12 question items were developed to measure each of the five dimensions. To understand whether the question items were reliable and valid, the newly developed ITF scale needed to go through the validation process. The researcher collected data from the target population. In the next chapter, the researcher provided information on the population, sampling strategies, and data collection procedures.

Chapter 3

Methodology

Population and Sample

Population. The airline industry contributes greatly to the U.S. economy. Based on the FAA's report, airline industry generated $488 billion annual earnings and supported 10,857,000 U.S. jobs. The airline industry also accounted for 5.2% of the U.S. GDP (2020). Disruptions to the airline industry could be significant to the U.S. economy. The current study was designed to measure airline passengers' intention to fly during a global disruption. The researcher recruited airline passengers from the United States. Examples of the U.S. commercial airlines include but not limit to American Airlines, Delta Air Lines, Southwest Airlines, United Airlines, Alaska Airlines, JetBlue Airways, Spirit Airlines, Frontier Airlines, Allegiant Air, and Hawaiian Airlines.

The current study's target population was airline passengers who were at least 18 years old and from the United States. Although the exact demographics makeup of the target population cannot be accurately determined, demographics of the U.S. general population can be informative of the makeup of the target population. Based on the U.S. census conducted in 2010, the population of the United States was 308,401,808, and it was estimated that by the time the 2020 U.S. census was conducted, the U.S. population was 329,484,123. In 2020, the estimate age makeup of the U.S. population was (a) 24% under 18 years old, (b) 36.5% between 18 and 44 years old, (c) 26.4% between 45 and 64 years old, and (d) 13% 65 and older. In 2020, the estimate gender makeup of the U.S. population was 50.8% female and 49.2% male.

The accessible population included airline passengers who were at least 18 years old and had access to the MTurk in the United States. The researcher decided to collect data using MTurk because (a) prior research supported the validity of MTurk data collection (Clifford et al., 2015), (b) social distancing discouraged in-person questionnaire administration, (c) MTurk facilitated data collection of a large sample size within a short amount of time, and (d) MTurk protected the identity of the participants.

The demographics of the MTurk workers might differ from the target population. Based on the statistics, the estimate age makeup of the MTurk workers were (a) 29.7% between the age of 18 and 29, (b) 36.8% between the age of 30 and 39, (c) 16.8% between the age of 40 and 49, (d) 10.7% between the age of 50 and 59, and (e) 6% between the age of 60 and 69. The estimate annual household income makeup of the MTurk users was (a) 6.31% under $10,000, (b) 6.6% between $10,000 and $19,999, (c) 11.67% between $20,000 and $29,999, (d) 10.82% between $30,000 and $39,999, (e) 11.02% between $40,000 and $49,999, (f) 11.22% between $50,000 and $59,999, (g) 7.94% between $60,000 and $69,999, (h) 7.30% between $70,000 and $79,999, (i) 5.06% between $80,000 and $89,999, (j) 5.16% between $90,000 and $99,999, (k) 11.97% between $100,000 and $149,999, and (l) 4.92% over $150,000 (Moss & Litman, 2020).

Sample. The researcher employed the convenience sampling strategy. Convenience sampling was a non-probability sampling method where samples were chosen based on the availability (Emerson, 2015). In the context of the current study, MTurk workers volunteered to be part of the study. Participants were available for the current study by choice, and participants could leave at any point of the study period. The current study collected participants background information, including age, gender, travel frequency, educational level, and income. The average

age of the sample was $M = 41.78$ ($SD = 13.12$). The gender makeup of the sample was: (a) 49.5% ($N = 110$) female, (b) 49.1% ($N = 109$) male, and (c) .9% ($N = 2$) unknown.

The income makeup of the sample was (a) 9.5% ($N = 21$) participants made less than $9,876, (b) 29.7% ($N = 66$) participants made between $9,876 and $40,125, (c) 34.7% ($N = 77$) participants made between $40,126 and $85,525, (d) 18.0% ($N = 40$) participants made between $85,526 and $163,300, (e) 3.6% ($N = 8$) participants made between $163,301 to $207,350, and (f) 3.6% ($N = 8$) participants made over $207,350. The average travel frequency of the participants was $M = 1.24$ ($SD = 2.31$). The education makeup of the sample was (a) 46.8% ($N = 104$) completed four-year college, (b) 26.1% ($N = 58$) participants completed a graduate school degree, (c) 14.0% ($N = 31$) participants completed high school, (d) 12.6% ($N = 28$) participants completed two-year college, and (e) .5% ($N = 1$) participants completed trade school.

Sample Size. The current study aimed to develop a scale that measures airline passengers' intention to fly during a global disruption. A factor analysis was conducted to determine if the question items were correctly loaded onto each dimension. Many prior studies have made recommendations on the sample size of the factor analysis. Gorsuch (1997) recommended that the minimum sample size for the factor analysis was 100. Comrey and Lee (2013) stated that (a) a minimum sample size of 100 was poor, (b) a minimum sample size of 200 was fair, (c) a minimum sample size of 300 was good, and a minimum sample size of 1000 was excellent. The current study was a doctoral dissertation, and for the feasibility of the research, the researcher determined the minimum sample size was 200.

Instrumentation

The instrument of the current study was a questionnaire. The questionnaire was hosted by Qualtrics. A link was generated by Qualtrics, and the link to the online questionnaire was distributed to the participants through MTurk.

The purpose of the current study was to create and validate the ITF scale. Based on Churchill's (1979) recommendation, the first step of the scale development was to determine dimensions. Based on the review of the prior studies and theories, the current study's researcher determined that airline passengers' intention to fly during a global disruption can be measured through five dimensions: attitude, subjective norms, perceived behavioral control, travel risk, and international travel. The second step of Churchill's (1979) scale development framework was to generate question items. Question items were developed based on prior studies. In total, the researcher developed 12 question items for the ITF scale. The operational definition of each construct was provided in Chapter 1. The theoretical grounding and literature support can be found in Chapter 2.

The complete instrument can be found in the Appendix A. The attitude dimension was measured by three question items. An example of the question item was, "Flying during a global disruption is okay." Each question item can be measured on a 5-point Likert with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree." The possible range of the attitude dimension was between 3 and 15.

The subjective norms dimension was measured by two question items. An example of the question item was, "My friends will think negatively of me if I fly during a global disruption." Both question items were reverse-coded. Each question item can be measured on a five-point

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Likert with 5 being "strongly disagree," 4 being "disagree," 3 being "neutral," 2 being "agree," and 1 being "strongly agree." The possible range of the subjective norms dimension was between 2 and 10.

The perceived behavioral control dimension was measured by three question items. An example of the question item was, "I have the ability to fly during a global disruption." Each question item can be measured on a five-point Likert with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree." The possible range of the perceived behavioral control dimension was between 3 and 15.

The travel risk dimension was measured by two question items. An example of the question item was, "I will fly when airlines have resumed flight operations." Each question item can be measured on a five-point Likert with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree." The possible range of the travel risk dimension was between 2 and 10.

The international travel dimension was measured by two question items. An example of the question item was, "International destinations are as safe as the domestic destinations." Each question item can be measured on a five-point Likert with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree." The possible range of the financial risk dimension was between 2 and 10.

Participants' overall intention to fly during a global disruption was measured by one question item. The question item was, "I intend to fly during a global disruption." The question item can be measured on a five-point Likert with 1 being "strongly disagree," 2 being "disagree," 3 being "neutral," 4 being "agree," and 5 being "strongly agree." The possible range of

participants' overall intention was between 1 and 5. The overall intention question item was included in the questionnaire to establish the convergent validity of the newly developed scale.

One additional question item was included in the questionnaire to establish the discriminant validity of the newly developed scale. The question item was, "Will you fly during a global disruption?" Participants can choose from "yes" or "no." The rationale of establishing the convergent validity and discriminant validity was provided in the procedure section of Chapter 3.

Participants' background was also recorded by the questionnaire. Five question items were included in the questionnaire. The first question item, D1, was designed to measure participants' age: "How old are you?" The second question item, D2, was designed to measure participants' gender: "What is your gender?" Participants can choose from "Male," "Female," and "I do not wish to say." The third question item, D3, was designed to measure participants' annual income: "What was your income in 2020?" Participants can choose from "less than $9,876," "$9,876 to $40,125," "$40,126 to $85,525," "$85,526 to $163,300," "$163,301 to $207,350," and "over $207,350." The fourth question item, D4, was designed to measure participants' travel frequency: "How many times did you fly in 2020?" The last question item, D5, was designed to measure participants' educational level: "What is the highest formal education that you have received?" Participants can choose from "none," "high school," "trade school," "2-year college," "4- year college," "graduate degree."

Procedures

     Research Methodology. The primary focus of the current study was to develop and validate a scale that measures airline passengers' intention to fly during a global disruption. Churchill's framework can be found in Figure 3.1.
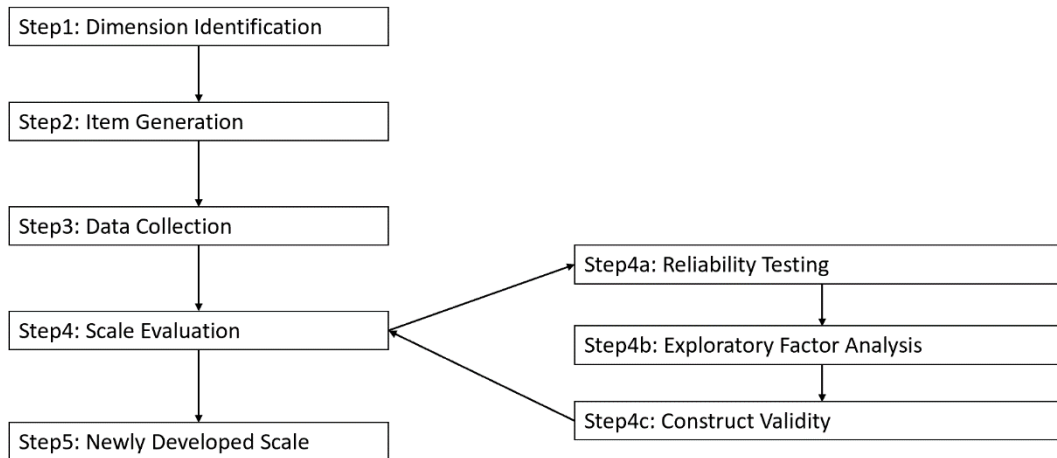

Figure 3. 1 - *Churchill's framework*

     The first step was the identification of the constructs and dimensions. Following Churchill's frameworks, the current study's researcher identified five dimensions: attitude, subjective norms, perceived behavioral control, travel risk, and international travel. The second step was to generate question items. Informed by the prior studies, the researcher developed 12 question items: (a) three question items for the attitude dimension, (b) two question items for the subjective norms dimension, (c) three question items for the perceived behavioral control dimension, (d) two question items for the travel risk dimension, and (e) two question items for the international travel dimension.

     The third step was to collect data from the airline passengers to understand if the question items were valid and reliable. Reliability statistics were calculated and reported to verify the

reliability of the ITF scale. A factor analysis was conducted to understand the factor loading of each question item. A series of data analyses were performed to assess the construct validity of the ITF scale. Both the convergent validity and discriminant validity were tested. Convergent validity referred to extent to which every dimension in the ITF scale was indeed measuring airline passengers' intention to fly during a global disruption. A correlation analysis between the each of the dimensions in the ITF scale and the overall intention was conducted. If the dimensions in the ITF scale were indeed measuring airline passengers' intention to fly during a global disruption, the correlation between the overall intention and each dimension from the ITF should be significant.

Discriminant validity was also evaluated. The ITF scale should be able to differentiate participants who intended to fly and participants who did not intend to fly. Based on the answers to the question item, "Will you fly during a global disruption?" Several *t*-tests were conducted, and the mean difference between participants who answered "yes" and participants who answered "no" was compared. To establish the discriminant validity, the mean difference should be significant. The testing methods for convergent validity and discriminant validity were adopted from Parasuraman, Zeithaml, and Berry's (1988) research. Relevant statistics and test results were reported in Chapter 4. After the scale development and validation, the research provided an application of the ITF scale. The researcher used the newly developed ITF scale to target demographics that were more likely to fly during a global disruption.

Human Subjects Research.

Data was collected using a questionnaire. The current study involved human participants. Answering a questionnaire posed a minimum level of threat to the wellbeing of the participants.

To ensure the safety of the participants, an application was submitted to the Institutional Review Board (IRB) at the Florida Institute of Technology. No data was collected until the approval from the IRB.

Data collection was enabled via Qualtrics and MTurk, and both platforms guaranteed the anonymity of the participation. Participants were not identified in the current study. Participation was voluntary, and participants could exit the study whenever they chose to. Participants were compensated for their time. Upon completion of the questionnaire, participants were rewarded $.25 via MTurk. Participants' responses were stored in a flash drive at a safe location. Data will be erased one year after the dissertation defense.

Study Implementation. The online questionnaire was hosted by Qualtrics, and the questionnaire link was published on MTurk. A task was created on MTurk, including instructions on how to access the online questionnaire and the link to the questionnaire. MTurk workers can participate in the questionnaire by clicking on the Qualtrics link. Once participants were in the webpage, a definition of the global disruption was provided, "A global disruption can be (a) a pandemic, such as COVID-19, (b) a terrorist attack, such as 9/11, or (c) a financial downturn, such as the 2008 financial crisis. You are a commercial airline passenger. Please answer the following questions regarding your intention to fly during a global disruption."

Once participants clicked on the online questionnaire link, Qualtrics recorded their participation, regardless of whether they completed the questionnaire. The researcher of the current study decided to collect at least 200 completed responses. The MTurk task remained available until the minimum sample size was reached.

The researcher then downloaded the participants' responses and saved the data file in a flash drive. The data file was in the comma-separated values (CSV) format, and the researcher used IBM SPSS for data analysis. After the researcher stored the data file in the flash drive, any data files containing participants' responses were erased from the Qualtrics.

Threats to Internal Validity. Internal validity was defined as the extent to which changes in the dependent variable was directly contributed by the independent variables. The current study focuses on threats identified by Ary, Jacobs, Sorensen, and Razavieh (2010). Descriptions of threats to internal validity are provided as follows.

History. The history threat was defined as occurrence of relevant events during the study period (Ary et al., 2010). In the context of the current study, if a global disruption occurred during the study period, participants might respond differently to the questionnaire. The study period of the current study was relatively short. The researcher recorded any relevant events during the study period. The results and findings of the current study should be interpreted with the context of relevant events that had happened during the study period.

Maturation. The Maturation threat was defined as participants' biological changes during the study period (Ary et al., 2010). For example, if the study period lasted for over 10 years, participants would be 10 years older at the time when the study was concluded. Participants might respond differently to the questionnaire due to aging. In the context of the current study, the study period was short, and it was unlikely participants experienced significant aging during the study period. Thus, the maturation threat was not considered.

Testing. The testing threat was defined as the exposure of the research instrument prior to the questionnaire administration (Ary et al., 2010). For example, if participants had seen the

questionnaire during a pre-test, they may be more familiar with the questionnaire and answer the questionnaire differently in the post-test. The current study did not involve a pre-assessment. Participants can only participate once. The testing threat was not considered for the current study.

Instrumentation. The instrument threat was defined as the changes of instrumentation during the study period (Ary et al., 2010). For example, if the researcher measured airline passengers' intention to fly during a global disruption using a 60-item questionnaire at the beginning of the study period, then switched to a 45-item questionnaire somewhere in the middle of the study period, participants might respond differently due to change of questionnaires. The current study only employed one instrument, and there was no change to the instrumentation during the study period. The instrumentation threat was not considered.

Selection bias. The selection bias referred to changes of sampling strategies during the study period (Ary et al., 2010). For example, if the researcher collected control group sample using random sampling strategy and treatment group sample using convenience sampling, the difference between the control group and treatment group might be due to differences in sampling strategies. The current study only had one group of participants, and there was no treatment. The sampling strategy was convenience sampling throughout the entire study period. The selection bias threat was not considered.

Mortality. The mortality threat was defined as loss of participants during the study period (Ary et al., 2010). For example, if a study's sample shrunk by half during the study period, the study results might differ from the scenario where no participate dropped out. The current study had a relatively short study period. Although participants could drop out whenever they choose

to, it was unlikely that large number of participants decided to terminate their participation prematurely. The researcher did not consider the mortality threat.

Experimenter effect. The experimenter effect threat was defined as the changes of the experimenter's attitude during the study period (Ary et al., 2010). For example, if a researcher had a biased attitude towards different genders, and the researcher spent extra time with one gender group, participants might respond to the questionnaire differently due to the researcher's gender bias. The current study's data collection was conducted using an online questionnaire. Participants were not influenced by the researcher. Because data collection was conducted remotely and anonymously, the experimenter threat was not considered.

Subject effect. The subject effect threat was defined as changes of participants' attitude during the study period (Ary et al., 2010). For example, when participants found out they were in the treatment group and received preferred treatment, they might have a positive attitude and become more motivated to be part of the study. The current study did not involve any treatment. There was only one group of participants, the subject effect threat was not considered.

Diffusion. The diffusion threat referred to the situation where participants in the control group interacted with participants in the treatment group (Ary et al., 2010). The current study did not involve treatment. Participants were MTurk workers who volunteered to be part of the study. As participation was anonymous, it was unlikely that participants could identify other participants and interacted with each other. The diffusion threat was not considered for the current study.

Location. The location threat referred to changes of participants' location during the study period (Ary et al., 2010). For example, if some participants answered a questionnaire in an

air-conditioned room while other participants answered the same questionnaire outdoors, the difference between the questionnaire responses might be due to location differences. The current study used MTurk and Qualtrics for questionnaire administration. Participants can choose their preferred location to answer the questionnaire. The location threat was not considered in the current study.

Data Analysis

Data analysis consisted of descriptive statistics and inferential statistics. Descriptive statistics included the mean, standard deviation, and frequency of each question item. Mean and standard deviation of participants' age and travel frequency were provided. Frequency statistics, such as number of respondents and percentage were reported for participants' gender, income, and educational level.

Inferential statistics were used to understand if the newly developed scale was valid and reliable. The reliability statistics of the questionnaire was examined using Cronbach's α. An exploratory factor analysis with principal component was employed to understand if the question items were correctly loaded onto the scale dimensions. Question items with factor loadings of .3 and higher were grouped together, and a minimum eigenvalue of 1.0 was used to verify the dimensionality of the scale.

To establish construct validity, convergent validity and discriminant validity of the newly ITF scale were tested, and the results were also part of the inferential statistics. Convergent validity was tested through the correlation analysis between participants' overall intention and each dimension of the ITF scale. The discriminant validity was tested through t-tests, where the

mean difference in each dimension between participants who intended to fly and who did not intend to fly was calculated.

Descriptions of Dimensions and Variables. The purpose of the current study was to develop and validate the ITF scale. Five dimensions were identified from the literature. Descriptions of dimensions were provided in this section.

Attitude. Attitude referred to the extent to which an airline passenger had a favorable or unfavorable perception towards flying during a global disruption. The attitude dimension was measured by three question items. Each question item can be answered on a five-point Likert-type scale. In total, attitude score ranged between 3 to 15. An example question item was, "Flying during a global disruption is okay."

Perceived behavioral control. Perceived behavioral control referred to the extent to which an airline passenger believed they were capable of flying during a global disruption. The perceived behavioral control dimension was measured by three question items. Each question item can be answered on a five-point Likert-type scale. In total, perceived behavioral control score ranged between 3 to 15. An example question item was, "I have the ability to fly during a global disruption."

Subjective norms. Subjective norms referred to the extent to which flying during a global disruption was supported by participants' friends and family members. The subjective norms dimension was measured by two question items. Each question item can be answered on a five-point Likert-type scale. In total, subjective norms score ranged between 2 to 10. An example question item was, "My friends will think negatively of me if I fly during a global disruption."

Travel risk. Travel risk referred to the extent to which flying during a global disruption was viewed as risky. The travel risk dimension was measured by two question items. Each question item can be answered on a five-point Likert-type scale. In total, travel risk score ranged between 2 to 10. An example question item was, "It is okay to fly when the government has allowed airline service to resume."

International travel. International travel referred to the extent to which flying internationally was viewed as risky by the airline passengers. The international travel dimension was measured by two question items. Each question item can be answered on a five-point Likert-type scale. In total, destination risk score ranged between 2 to 10. An example question item was, "International destinations are as safe as the domestic destinations."

As an application of the newly developed ITF scale, the researcher used the newly developed ITF scale to target demographics that were more likely to fly during a global disruption. Description of the variables were provided in this section. The dependent variable was participants' ITF score, which was the sum of the 12 question items.

Age. Age was measured continuously. Age was measured by one question item, "How old are you?" Participants can answer their age in year.

Gender. Gender was measured categorically. Gender was measured by one question item, "What is your gender?" Participants can respond by choosing between "Male," "Female," and "I do not wish to say."

Travel Frequency. Travel frequency was measured continuously. Travel frequency was measured by one question item, "How many times did you fly in 2020?" Participants can answer their travel frequency in number of flights.

Income. Income was measured categorically. Income was measured by one question item, "What was your income in 2020?" Participants can choose from "less than $9,876," "$9,876 to $40,125," "$40,126 to $85,525," "$85,526 to $163,300," "$163,301 to $207,350," and "over $207,350."

Educational Level. Educational Level was measured categorically. Educational Level was measured by one question item, "What is the highest formal education that you have received?" Participants can respond by choosing between "none," "high school," "trade school," "2-year college," "4- year college," and "graduate degree."

Intention to Fly. Participants' intention to fly during a global disruption was measured continuously. Airline passengers' intention to fly was measured by the ITF scale. The range of the ITF score was between 12 and 60.

Chapter 4

Results

Introduction

Chapter 4 includes three main sections. The first main section includes results of the descriptive statistics. Participants' intention to fly during a global disruption was measured by a 12-item scale. A copy of the ITF scale can be found in Appendix A. The descriptive statistics of participants' responses to the ITF scale and participants' age, gender, income, educational level, and travel frequency are included in the first main section of Chapter 4. The second main section includes results of the inferential statistics. Before the primary analysis, the researcher conducted a series of preliminary analyses. The inferential statistics of both the preliminary analysis and primary analysis were included in the second main section. The research included appropriate tables and supporting figures for the descriptive and inferential statistics. The last main section includes the results of hypothesis testing. As mentioned in Chapter 1, the current study has multiple research hypotheses. Based on the results of the data analysis, null hypotheses were either rejected or retained.

Descriptive Statistics

Participants' responses to the instrument were included in this section. The researcher used an online questionnaire for data collection. The descriptive statistics consist of two sections. The first section includes the results of the pilot study. The second section includes the results of the sample.

Descriptive statistics of the pilot study. The pilot study included 32 participants. This section is organized in three subsections: (a) descriptive statistics of participants' responses to the newly developed ITF scale, (b) descriptive statistics of participants' responses to the overall intention, and (c) descriptive statistics of participants' age, gender, education level, income, and travel frequency.

Responses to the newly developed ITF scale. The first question item was "Flying during a global disruption is okay." Descriptive statistics of the first question item indicated that: (a) 21.9% ($N = 7$) participants answered "1-Strongly disagree," (b) 25.0% ($N = 8$) participants answered "2-Disagree," (c) 15.6% ($N = 5$) participants answered "3-Neutral," (d) 28.1% ($N = 9$) participants answered "4-Agree," and (e) 9.4% ($N = 3$) participants answered "5-Strongly agree." The mean score of the first question item was $M = 2.78$ ($SD = 1.34$).

The second question item was "I like the idea of flying during a global disruption." Descriptive statistics of the question item indicated that: (a) 43.8% ($N = 14$) participants answered "1-Strongly disagree," (b) 31.3% ($N = 10$) participants answered "2-Disagree," (c) 15.6% ($N = 5$) participants answered "3-Neutral," (d) 3.1% ($N = 1$) participants answered "4-Agree," and (e) 6.3% ($N = 2$) participants answered "5-Strongly agree." The mean score of the question item was $M = 1.97$ ($SD = 1.15$).

The third question item was "It is okay to fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 25.0% ($N = 8$) participants answered "1-Strongly disagree," (b) 25.0% ($N = 8$) participants answered "2-Disagree," (c) 18.8% ($N = 6$) participants answered "3-Neutral," (d) 18.8% ($N = 6$) participants answered "4-Agree," and (e) 12.5% ($N =$

4) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.69$ ($SD = 1.38$).

The fourth question item was "I have the ability to fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 21.9% ($N = 7$) participants answered "1-Strongly disagree," (b) 12.5% ($N = 4$) participants answered "2-Disagree," (c) 15.6% ($N = 5$) participants answered "3-Neutral," (d) 34.4% ($N = 11$) participants answered "4-Agree," and (e) 15.6% ($N = 5$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.09$ ($SD = 1.42$).

The fifth question item was "I am capable of flying during a global disruption." Descriptive statistics of the question item indicated that: (a) 28.1% ($N = 9$) participants answered "1-Strongly disagree," (b) 9.4% ($N = 3$) participants answered "2-Disagree," (c) 6.3% ($N = 2$) participants answered "3-Neutral," (d) 37.5% ($N = 12$) participants answered "4-Agree," and (e) 18.8% ($N = 6$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.09$ ($SD = 1.55$).

The sixth question item was "It is easy to fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 37.5% ($N = 12$) participants answered "1-Strongly disagree," (b) 18.8% ($N = 6$) participants answered "2-Disagree," (c) 12.5% ($N = 4$) participants answered "3-Neutral," (d) 15.6% ($N = 5$) participants answered "4-Agree," and (e) 15.6% ($N = 5$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.53$ ($SD = 1.52$).

The seventh question item was "My friends will think negatively of me if I fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 6.3% ($N = 2$)

participants answered "1-Strongly disagree," (b) 15.6% ($N = 5$) participants answered "2-Disagree," (c) 34.4% ($N = 11$) participants answered "3-Neutral," (d) 28.1% ($N = 9$) participants answered "4-Agree," and (e) 15.6% ($N = 5$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.69$ ($SD = 1.12$).

The eighth question item was "My family will think negatively of me if I fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 9.4% ($N = 3$) participants answered "1-Strongly disagree," (b) 6.3% ($N = 2$) participants answered "2-Disagree," (c) 46.9% ($N = 15$) participants answered "3-Neutral," (d) 18.8% ($N = 6$) participants answered "4-Agree," and (e) 18.8% ($N = 6$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.69$ ($SD = 1.15$).

The ninth question item was "I will fly when airlines have resumed flight operations." Descriptive statistics of the question item indicated that: (a) 9.4% ($N = 3$) participants answered "1-Strongly disagree," (b) 9.4% ($N = 3$) participants answered "2-Disagree," (c) 28.1% ($N = 9$) participants answered "3-Neutral," (d) 34.4% ($N = 11$) participants answered "4-Agree," and (e) 18.8% ($N = 6$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.44$ ($SD = 1.19$).

The tenth question item was "I will fly if airlines have available flights." Descriptive statistics of the question item indicated that: (a) 9.4% ($N = 3$) participants answered "1-Strongly disagree," (b) 9.4% ($N = 3$) participants answered "2-Disagree," (c) 34.4% ($N = 11$) participants answered "3-Neutral," (d) 31.3% ($N = 10$) participants answered "4-Agree," and (e) 15.6% ($N = 5$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.34$ ($SD = 1.15$).

The eleventh question item was "International destinations are as safe as the domestic destinations." Descriptive statistics of the question item indicated that: (a) 12.5% ($N = 4$) participants answered "1-Strongly disagree," (b) 28.1% ($N = 9$) participants answered "2-Disagree," (c) 31.3% ($N = 10$) participants answered "3-Neutral," (d) 18.8% ($N = 6$) participants answered "4-Agree," and (e) 9.4% ($N = 3$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.84$ ($SD = 1.17$).

The twelfth question item was "Domestic destinations are as safe as the international destinations." Descriptive statistics of the question item indicated that: (a) 9.4% ($N = 3$) participants answered "1-Strongly disagree," (b) 15.6% ($N = 5$) participants answered "2-Disagree," (c) 34.4% ($N = 11$) participants answered "3-Neutral," (d) 25.0% ($N = 8$) participants answered "4-Agree," and (e) 15.6% ($N = 5$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.22$ ($SD = 1.18$). The ITF scale had 12 question items. The range of the ITF scale ranged between 12 and 60. The mean score of the ITF scale was $M = 34.38$ ($SD = 11.58$). A summary of the descriptive statistics of the ITF question items can be found in **Table 4.1**.

Table 4. 1 - *Descriptive Statistics of the ITF Scale (Pilot)*

	M	SD
1. Flying during a global disruption is okay	2.78	1.34
2. I like the idea of flying during a global disruption	1.97	1.15
3. It is okay to fly during a global disruption	2.69	1.38
4. I have the ability to fly during a global disruption	3.09	1.42
5. I am capable of flying during a global disruption	3.09	1.55

6. It is easy to fly during a global disruption	2.53	1.52
7. My friends will think negatively of me if I fly during a global disruption	2.69	1.12
8. My family will think negatively of me if I fly during a global disruption	2.69	1.15
9. I will fly when airlines have resumed flight operations	3.44	1.19
10. I will fly if airlines have available flights	3.34	1.15
11. International destinations are as safe as the domestic destinations	2.84	1.17
12. Domestic destinations are as safe as the international destinations	3.22	1.18

Responses to overall intention. Participants' overall intention to fly during a global disruption was measured by two question items. The first question item was, "I intend to fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 37.5% ($N = 12$) participants answered "1-Strongly disagree," (b) 25.0% ($N = 8$) participants answered "2-Disagree," (c) 9.4% ($N = 3$) participants answered "3-Neutral," (d) 21.9% ($N = 7$) participants answered "4-Agree," and (e) 6.3% ($N = 2$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.34$ ($SD = 1.36$). The second question item was, "Will you fly during a global disruption?" Descriptive statistics of the question item indicated that: (a) 56.3% ($N = 18$) participants answered "no," and (b) 43.8% ($N = 14$) participants answered "yes."

Background information. The researcher also collected background information from the participants. The first question item was, "How old are you?" Based on participants' responses, the average age was $M = 38.34$ ($SD = 12.85$). The second question item was, "What is your gender?" The descriptive statistics indicated that (a) 40.6% ($N = 13$) participants answered "Female," (b) 56.3% ($N = 18$) participants answered "Male," and (c) 3.1% ($N = 1$) participant answered, "I do not wish to say." The third question item was, "What was your income in

2020?" The descriptive statistics indicated that (a) 12.5% ($N = 4$) participants answered "less than $9,876," (b) 34.4% ($N = 11$) participants answered "$9,876 to $40,125," (c) 31.3% ($N = 10$) participants answered "$40,126 to $85,525," (d) 12.5% ($N = 4$) participants answered "$85,526 to $163,300," (e) 6.3% ($N = 2$) participants answered "$163,301 to $207,350," and (f) 3.1% ($N = 1$) participants answered "over $207,350."

The fourth question item was, "How many times did you fly in 2020?" Based on participants' responses, the average travel frequency was $M = 1.09$ ($SD = 2.39$). The fifth question item was, "What is the highest formal education that you have received?" The descriptive statistics indicated that (a) 43.8% ($N = 14$) participants answered "Four-year college," (b) 21.9% ($N = 7$) participants answered "Graduate degree," (c) 15.6% ($N = 5$) participants answered "High school," and (d) 18.8% ($N = 6$) participants answered "Two-year college."

Descriptive statistics of the sample. The sample included 222 participants. The researcher organized the descriptive statistics of the sample in three subsections: (a) descriptive statistics of participants' responses to the newly developed ITF scale, (b) descriptive statistics of participants' responses to the overall intention, and (c) descriptive statistics of participants' age, gender, education level, income, and travel frequency.

Responses to the ITF scale. The first question item was "Flying during a global disruption is okay." Descriptive statistics of the first question item indicated that: (a) 23.9% ($N = 53$) participants answered "1-Strongly disagree," (b) 20.7% ($N = 46$) participants answered "2-Disagree," (c) 22.1% ($N = 49$) participants answered "3-Neutral," (d) 27.0% ($N = 60$) participants answered "4-Agree," and (e) 6.3% ($N = 14$) participants answered "5-Strongly agree." The mean score of the first question item was $M = 2.71$ ($SD = 1.27$).

The second question item was "I like the idea of flying during a global disruption." Descriptive statistics of the question item indicated that: (a) 37.8% ($N = 84$) participants answered "1-Strongly disagree," (b) 29.7% ($N = 66$) participants answered "2-Disagree," (c) 15.8% ($N = 35$) participants answered "3-Neutral," (d) 12.6% ($N = 28$) participants answered "4-Agree," and (e) 4.1% ($N = 9$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.15$ ($SD = 1.18$).

The third question item was "It is okay to fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 21.2% ($N = 47$) participants answered "1-Strongly disagree," (b) 23.9% ($N = 53$) participants answered "2-Disagree," (c) 21.2% ($N = 47$) participants answered "3-Neutral," (d) 24.3% ($N = 54$) participants answered "4-Agree," and (e) 9.5% ($N = 21$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.77$ ($SD = 1.29$).

The fourth question item was "I have the ability to fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 11.7% ($N = 26$) participants answered "1-Strongly disagree," (b) 9.0% ($N = 20$) participants answered "2-Disagree," (c) 27.5% ($N = 61$) participants answered "3-Neutral," (d) 38.3% ($N = 85$) participants answered "4-Agree," and (e) 13.5% ($N = 30$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.33$ ($SD = 1.17$).

The fifth question item was "I am capable of flying during a global disruption." Descriptive statistics of the question item indicated that: (a) 12.6% ($N = 28$) participants answered "1-Strongly disagree," (b) 8.6% ($N = 19$) participants answered "2-Disagree," (c) 18.5% ($N = 41$) participants answered "3-Neutral," (d) 43.7% ($N = 97$) participants answered "4-

Agree," and (e) 15.8% ($N = 35$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.42$ ($SD = 1.23$).

The sixth question item was "It is easy to fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 23.0% ($N = 51$) participants answered "1-Strongly disagree," (b) 36.0% ($N = 80$) participants answered "2-Disagree," (c) 17.1% ($N = 38$) participants answered "3-Neutral," (d) 16.7% ($N = 37$) participants answered "4-Agree," and (e) 6.8% ($N = 15$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.48$ ($SD = 1.21$).

The seventh question item was "My friends will think negatively of me if I fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 15.8% ($N = 35$) participants answered "1-Strongly disagree," (b) 25.2% ($N = 56$) participants answered "2-Disagree," (c) 29.3% ($N = 65$) participants answered "3-Neutral," (d) 18.9% ($N = 42$) participants answered "4-Agree," and (e) 10.8% ($N = 24$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.84$ ($SD = 1.21$).

The eighth question item was "My family will think negatively of me if I fly during a global disruption." Descriptive statistics of the question item indicated that: (a) 16.7% ($N = 37$) participants answered "1-Strongly disagree," (b) 25.2% ($N = 56$) participants answered "2-Disagree," (c) 30.2% ($N = 67$) participants answered "3-Neutral," (d) 15.3% ($N = 34$) participants answered "4-Agree," and (e) 12.6% ($N = 28$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.82$ ($SD = 1.25$).

The ninth question item was "I will fly when airlines have resumed flight operations." Descriptive statistics of the question item indicated that: (a) 6.8% ($N = 15$) participants answered

"1-Strongly disagree," (b) 10.8% ($N = 24$) participants answered "2-Disagree," (c) 26.1% ($N = 58$) participants answered "3-Neutral," (d) 37.4% ($N = 83$) participants answered "4-Agree," and (e) 18.5% ($N = 41$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.50$ ($SD = 1.12$).

The tenth question item was "I will fly if airlines have available flights." Descriptive statistics of the question item indicated that: (a) 9.0% ($N = 20$) participants answered "1-Strongly disagree," (b) 11.3% ($N = 25$) participants answered "2-Disagree," (c) 27.0% ($N = 60$) participants answered "3-Neutral," (d) 38.3% ($N = 85$) participants answered "4-Agree," and (e) 14.0% ($N = 31$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.37$ ($SD = 1.14$).

The eleventh question item was "International destinations are as safe as the domestic destinations." Descriptive statistics of the question item indicated that: (a) 16.7% ($N = 37$) participants answered "1-Strongly disagree," (b) 32.4% ($N = 72$) participants answered "2-Disagree," (c) 27.0% ($N = 60$) participants answered "3-Neutral," (d) 17.6% ($N = 39$) participants answered "4-Agree," and (e) 6.3% ($N = 14$) participants answered "5-Strongly agree." The mean score of the question item was $M = 2.64$ ($SD = 1.14$).

The twelfth question item was "Domestic destinations are as safe as the international destinations." Descriptive statistics of the question item indicated that: (a) 9.5% ($N = 21$) participants answered "1-Strongly disagree," (b) 17.1% ($N = 38$) participants answered "2-Disagree," (c) 33.8% ($N = 75$) participants answered "3-Neutral," (d) 28.8% ($N = 64$) participants answered "4-Agree," and (e) 10.8% ($N = 24$) participants answered "5-Strongly agree." The mean score of the question item was $M = 3.14$ ($SD = 1.12$). The ITF scale had 12

question items. The range of the ITF scale ranged between 12 and 60. The mean score of the ITF

scale was $M = 35.17(SD = 9.73)$. A summary of the descriptive statistics of the ITF question

items can be found in **Table 4.2**.

Table 4. 2 - *Descriptive Statistics of the ITF Scale (Sample)*

	M	SD
1. Flying during a global disruption is okay	2.71	1.27
2. I like the idea of flying during a global disruption	2.15	1.18
3. It is okay to fly during a global disruption	2.77	1.29
4. I have the ability to fly during a global disruption	3.33	1.17
5. I am capable of flying during a global disruption	3.42	1.23
6. It is easy to fly during a global disruption	2.48	1.21
7. My friends will think negatively of me if I fly during a global disruption	2.84	1.22
8. My family will think negatively of me if I fly during a global disruption	2.82	1.25
9. I will fly when airlines have resumed flight operations	3.50	1.12
10. I will fly if airlines have available flights	3.37	1.14
11. International destinations are as safe as the domestic destinations	2.64	1.14
12. Domestic destinations are as safe as the international destinations	3.14	1.12

Responses to overall intention. Participants' overall intention to fly during a global

disruption was measured by two question items. The first question item was, "I intend to fly

during a global disruption." Descriptive statistics of the question item indicated that: (a) 27.0%

($N = 60$) participants answered "1-Strongly disagree," (b) 28.8% ($N = 64$) participants answered

"2-Disagree," (c) 18.0% ($N = 40$) participants answered "3-Neutral," (d) 20.7% ($N = 46$)

participants answered "4-Agree," and (e) 5.4% ($N = 12$) participants answered "5-Strongly

agree." The mean score of the question item was $M = 2.49$ ($SD = 1.24$). The second question item was, "Will you fly during a global disruption?" Descriptive statistics of the question item indicated that: (a) 58.1% ($N = 129$) participants answered "no," and (b) 41.9% ($N = 93$) participants answered "yes."

Background information. The current study also collected background information from the participants. The first question item was, "How old are you?" Based on participants' responses, the average age was $M = 41.78$ ($SD = 13.12$). The second question item was, "What is your gender?" The descriptive statistics indicated that (a) 49.5% ($N = 110$) participants answered "Female," (b) 49.1% ($N = 109$) participants answered "Male," and (c) .9% ($N = 2$) participant answered, "I do not wish to say." The third question item was, "What was your income in 2020?" The descriptive statistics indicated that (a) 9.5% ($N = 21$) participants answered "less than \$9,876," (b) 29.7% ($N = 66$) participants answered "\$9,876 to \$40,125," (c) 34.7% ($N = 77$) participants answered "\$40,126 to \$85,525," (d) 18.0% ($N = 40$) participants answered "\$85,526 to \$163,300," (e) 3.6% ($N = 8$) participants answered "\$163,301 to \$207,350," and (f) 3.6% ($N = 8$) participants answered "over \$207,350."

The fourth question item was, "How many times did you fly in 2020?" Based on participants' responses, the average travel frequency was $M = 1.24$ ($SD = 2.31$). The fifth question item was, "What is the highest formal education that you have received?" The descriptive statistics indicated that (a) 46.8% ($N = 104$) participants answered "Four-year college," (b) 26.1% ($N = 58$) participants answered "Graduate degree," (c) 14.0% ($N = 31$) participants answered "High school," (d) 12.6% ($N = 28$) participants answered "Two-year college," and (e) .5% ($N = 1$) participants answered "Trade school."

Inferential Statistics

The purpose of the current study was to develop and validate the ITF scale. The scale development involved identification of the dimensions and designs of the question items. The identification of the dimensions was accomplished through the theories. Grounded in the theory of planned behavior, the researcher identified three dimensions for the ITF scale: attitude, subjective norms, and perceived behavioral control. The attitude dimension was measured by ITF1, ITF2, and ITF3. The perceived behavioral control dimension was measured by ITF4, ITF5, and ITF6. The subjective norms dimension was measured by ITF7 and ITF8.

Another two dimensions were identified through the protection motivation theory: international travel and travel risk. The travel risk dimension was measured by ITF9 and ITF10.The international travel dimension was measured by ITF11 and ITF12. In total, the researcher identified five dimensions. The design of the question items was supported by the prior studies. In total, 12 question items were created to measure airline passengers' intention to fly during a global disruption. The ITF scale was reviewed by multiple faculty members from the Florida Institute of Technology.

Scale validation was achieved by distributing the newly developed ITF scale to the participants. Based on the participants' responses, the researcher ran a series of quantitative data analyses. The results of the data analyses were recorded in the inferential statistics section. Inferential statistics consisted of preliminary analysis and primary analysis. Following are the results of the preliminary analysis.

Preliminary analyses.

Recommended sample size for the factor analysis varied in the literature. The Institute for Digital Research and Education at the University of California, Los Angeles (UCLA) recommended that sample size should be 10 times of the number of question items (2021). The ITF scale has 12 question items, and the sample should be 120. MacCallum, Widaman, Zhang, and Hong (1999) made recommendations for the sample size of the factor analysis: (a) 100 would be poor, (b) 200 would be fair, (c) 500 would be very good, and (d) 1,000 or more would be excellent. The current study was a self-funded doctoral research. The researcher determined the appropriate sample size was 200. Before collecting a large sample, a pilot study was conducted to assess the reliability of the ITF scale. The researcher organized this section in two subsections: (a) pilot study, and (b) preliminary analyses of the main sample.

Pilot study. Johanson and Brooks (2010) suggested that the sample size for a pilot study should be 30. In the current study, the sample size of the pilot study was 32. Following is the results of the pilot study.

Coding. Participants answered the ITF scale by choosing from "1-Strongly disagree," "2-Disagree," "3-Neutral," "4-Agree," and "5-Strongly agree." The ITF scale had 12 question items. Except question item 7 and question item 8, question items were coded: (a) "1-Strongly disagree" was coded as 1, (b) "2-Disagree" was coded as 2, (c) "3-Neutral" was coded as 3, (d) "4-Agree" was coded as 4, and (e) "5-Strongly agree" was coded as 5. Question item 7 and question item 8 were reverse-coded: (a) "1-Strongly disagree" was coded as 5, (b) "2-Disagree" was coded as 4, (c) "3-Neutral" was coded as 3, (d) "4-Agree" was coded as 2, and (e) "5-Strongly agree" was coded as 1.

Missing data. Missing data could happen for different reasons. When participants only missed a few question items, the participant's input might still be valuable. If participants missed less than 20% of the question item, the researcher replaced the missing value with the mean of the participant's response to the rest of the question items. If participants missed more than 20% of the question items, the participant's entry was removed from the dataset. There were 32 participants in the pilot study, and no missing data were recorded.

Outlier analysis. Based on the type of data analysis, the researcher conducted a univariate outlier analysis. Outliers were determined based on the Z-score. The Z-score of all 12-question items were calculated. The ITF score belonged to the most extreme .1% of the distribution when Z-score fell outside of the absolute value of ±3.29. Prior research suggested that a Z-score of higher than +3.29 or lower than -3.29 can be used to detect outliers (Tabachnick & Fidell, 2013). There were 32 participants in the pilot study. The z-score of all 12-question items in the ITF scale fell between -3.29 and +3.29, suggesting absence of the outlier. The results of the outlier analysis can be found in **Table 4.3**.

Table 4. 3 - *Outlier Statistics (Pilot Study)*

item #	Z-score Minimum	Z-score Maximum
1	-1.33	1.66
2	-0.84	2.64
3	-1.22	1.68
4	-1.47	1.34
5	-1.35	1.23
6	-1.00	1.62

7	-1.51	2.07
8	-1.47	2.01
9	-2.05	1.31
10	-2.03	1.44
11	-1.58	1.85
12	-1.87	1.50

Reliability. After coding, handling of missing data, and outlier analysis, the researcher calculated the Cronbach's α of the ITF scale using data collected from the pilot study. Santos (1999) indicated that Cronbach's alpha of .70 and above was acceptable for scale reliability assessment. The Cronbach's α of the ITF scale was .93, suggesting sufficient reliability. Based on the results of the pilot study, the researcher proceeded with sample data collection.

Sample. As mentioned earlier, the sample size of the current study should be at least 200. After data collection, the sample size was 222. Following is the preliminary analysis of the sample.

Coding. The researcher coded participants' responses. Participants answered the ITF scale by choosing from "1-Strongly disagree," "2-Disagree," "3-Neutral," "4-Agree," and "5-Strongly agree." The ITF scale had 12 question items. Except question item 7 and question item 8, question items were coded: (a) "1-Strongly disagree" was coded as 1, (b) "2-Disagree" was coded as 2, (c) "3-Neutral" was coded as 3, (d) "4-Agree" was coded as 4, and (e) "5-Strongly agree" was coded as 5. Question item 7 and question item 8 were reverse-coded: (a) "1-Strongly disagree" was coded as 5, (b) "2-Disagree" was coded as 4, (c) "3-Neutral" was coded as 3, (d) "4-Agree" was coded as 2, and (e) "5-Strongly agree" was coded as 1.

Missing data. As mentioned earlier, the questionnaire responses were inadmissible when more than 20% of the data entries contained missing data, and in this case, data entries with missing data needed to be excluded from data analysis. In the current sample, only 2% ($N = 5$) of the data entries contained missing data, which fell below 20%. Enders (2003) indicated that when data entries with missing data accounted for less than 20% of the total data entries, missing value can be added based on the mean score of the rest of the data entries. The researcher plugged in the mean score into the data entries with missing data.

Outlier analysis. The researcher conducted a univariate outlier analysis, and the Z-scores were used to determine outliers. As mentioned in the earlier section, a Z-score of higher than +3.29 or lower than -3.29 indicated the presence of outliers (Tabachnick & Fidell, 2013). There were 222 participants in the sample. The Z-score of all 12-question items were calculated, and the z-score of all 12-question items in the ITF scale fell between -3.29 and +3.29, suggesting an absence of the outlier. The results of the outlier analysis can be found in **Table 4.4**.

Outlier analysis was also performed for the background variables. As shown in **Table 4.4**, the z-score of the travel frequency question item fell beyond +3.29. The results of the outlier analysis indicated that outliers were present in the travel frequency question item. Outlier could happen for different reasons. It was possible that outliers were contaminations where data was entered incorrectly. If outliers were contamination, the researcher ought to remove the data entry. It was also possible that outliers were rare cases where data reflected the real-world situation. If outliers were rare cases, the researcher should include the outliers (Aggarwal, 2017).

The researcher asked participants of their travel frequency in 2020. Due to COVID-19, many people did not travel in 2020. Based on the descriptive statistics of the sample, over 50%

of the participants did not travel in 2020. By examining participants' entries, the minimum travel

frequency of the sample was 0, and the maximum travel frequency of the sample was 15. It was

possible that someone had flown 15 times in 2020, and the researcher decided to include outliers

because they appeared to be rare cases.

Table 4. 4 - *Outlier Statistics (Sample)*

item #	Z-score Minimum	Z-score Maximum
1	-1.35	1.80
2	-0.98	2.42
3	-1.37	1.73
4	-1.98	1.42
5	-1.98	1.30
6	-1.22	2.09
7	-1.51	1.77
8	-1.46	1.75
9	-2.24	1.34
10	-2.09	1.44
11	-1.44	2.07
12	-1.91	1.66
Age	-1.58	2.38
Gender	-1.00	2.86
Income	-1.63	2.73
Travel Frequency	-.54	5.98

Education Level	-2.15	1.03

Primary Analyses. The purpose of the current study was to develop and validate the ITF scale. The validation process consisted of multiple steps. To assess the reliability of the ITF scale, the researcher calculated the inter-item correlation and Cronbach's α. A factor analysis was conducted to examine the factor loadings of the question items. To assess the validity of the ITF scale, the researcher examined the convergent validity and discriminant validity of the ITF scale.

Inter-item correlation. After coding, handling of missing data, and outlier analysis, the researcher calculated the Cronbach's α and Guttman's Split Half Coefficient of the ITF scale using data collected from the main sample. The Cronbach's α of the ITF scale was .89, and the Guttman's Split Half Coefficient was .95, suggesting sufficient reliability (Santos, 1999).

Factor analysis. The researcher conducted a factor analysis to examine the factor loadings of the question items. Informed by Alotaibi (2015), principal component analysis (PCA) with varimax rotation was appropriate for the dimension assessment of the ITF scale. Factors were identified by an eigenvalue greater than 1.0, and question items with factor loadings of .3 or higher were grouped together. The scree plot visualized the eigenvalues of each factor. As shown in Figure 4.1, three factors achieved an eigenvalue of 1.0 or greater.
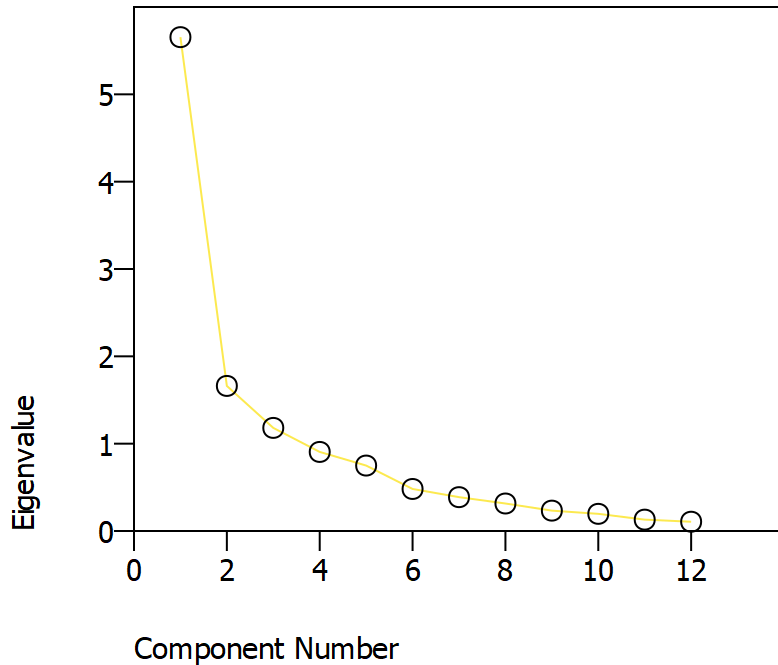
Figure 4. 1 - *Scree Plot*

The eigenvalue criteria suggested that there were three factors. Based on the grouping criteria, (a) question items for the attitude dimension loaded onto the first factor, (b) question items for the subjective norms dimension loaded onto the second factor, (c) question items for the travel risk loaded onto the third factor, (d) question items for the perceived behavioral control dimension and international travel dimension also loaded onto the first factor. In summary, the first factor included question item 1, 2, 4, 5, 6, 11, 12. The second factor included question item 7 and question 8. The third factor included question 9 and question 10. No question items were removed from the ITF scale because factor loadings of every question item exceeded .3 threshold (Alotaibi, 2015). The factor loadings of the question items can be found in **Table 4.5**.

Table 4. 5 - *Factor Loadings*

Item #	Attitude	Subjective Norms	Travel Risk
1	.80		

2	.77		
3	.78		
4	.77		
5	.82		
6	.78		
7		.93	
8		.91	
9			.86
10			.84
11	.53		
12	.53		

The factor analysis resulted in a three-factor solution. Each of the three factors were given a suitable name: attitude, subjective norms, and travel risk. In total, three factors explained 70.8% of variances in airline passengers' intention to fly during a global disruption: (a) attitude accounted for 47.1% of the variances with the eigenvalue of 5.65, (b) subjective norms accounted for 13.8% of the variances with the eigenvalue of 1.66, and (c) travel risk accounted for 9.8% of the variances with the eigenvalue of 1.18.

The reliability of each factor was also examined using the Cronbach's α. The Cronbach's α ranged between .81 to .91, suggesting sufficient internal consistency within each factor (Santos, 1999). The Cronbach's α of each factor can be found in **Table 4.6**.

Table 4. 6 - *Reliability Coefficient of the Extracted Factors*

Factor	Number of Items	Cronbach's α.

Attitude	8	.91
Subjective Norms	2	.88
Travel Risk	2	.81

Construct validity. According to Alotaibi (2015), the construct validity of a scale can be tested through the assessment of the convergent validity and discriminant validity. In the context of the current study, convergent validity referred to the extent to which each of the three dimensions were measuring airline passengers' intention to fly during a global disruption. A correlation analysis was performed between participants' overall intention and each of the three dimensions from the ITF scale. The results indicated that participants' overall intention was significantly correlated with attitude ($r = .957$, $p < .001$), subjective norms ($r = .525$, $p < .001$), and the travel risk ($r = .622$, $p < .001$). Based on the results of the correlation analysis, convergent validity of the ITF scale was established. The results of the correlation analysis can be found in **Table 4.7**.

Table 4. 7 - *Correlation (Convergent Validity)*

	Attitude	Subjective Norms	Travel Risk	Overall Intention
Attitude				
Pearson Correlation	1.000	.329	.485	.957
Sig. (2-tailed)		.000	.000	.000
N	222	222	222	222
Subjective Norms				
Pearson Correlation	.329	1.000	.138	.525

Sig. (2-tailed)	.000		.040	.000
N	222	222	222	222
Travel Risk				
Pearson Correlation	.485	.138	1.000	.622
Sig. (2-tailed)	.000	.040		.000
N	222	222	222	222
Overall Intention				
Pearson Correlation	.957	.525	.622	1.000
Sig. (2-tailed)	.000	.000	.000	
N	222	222	222	222

The other type of construct validity was the discriminant validity. In the context of the current study, discriminant validity referred to the extent to which the ITF scale can differentiate participants who intended to fly from participants who did not intend to fly during a global disruption. Informed by Alotaibi (2015), the researcher used the *t*-tests to examine the discriminant validity of the ITF scale. As mentioned in the descriptive statistics, the researcher asked participants whether they will fly during a global disruption. The results indicated that: (a) 58.1% (N = 129) participants answered "no," and (b) 41.9% (N = 93) participants answered "yes." The mean score difference in each of the three dimensions between participants who answered "yes" to flying during a global disruption and participants who answered "no" to flying during a global disruption was examined.

Three t-tests were used to examine the discriminant validity of the ITF scale. Assumptions for the *t*-test were examined. The first assumption was the independence of observation assumption. Data collection was achieved through an online questionnaire, and each

questionnaire response represented a distinctive person. The researcher did not allow participants

to enter the study more than once, and the independence of observation assumption was satisfied.

The normality assumption was tested. The ITF score was normally distributed. A visual

confirmation can be found in Figure 4.2, where the distribution of participants' ITF score

appeared to be following the normal curve.
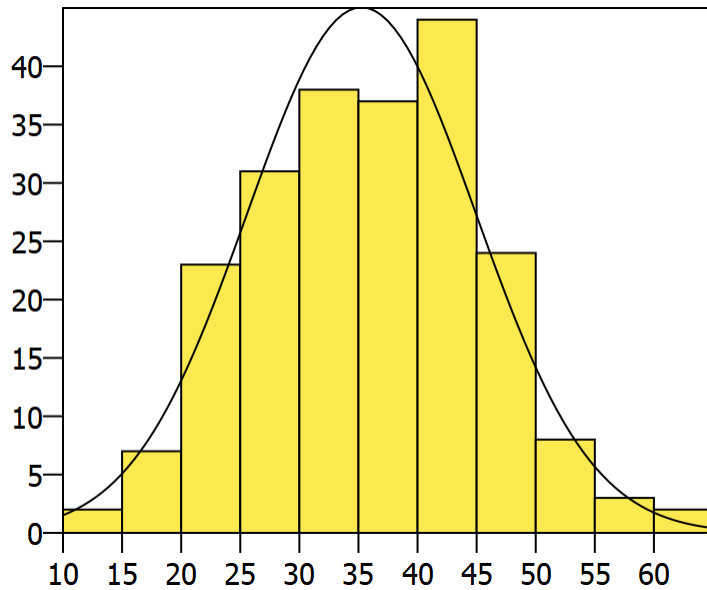
Figure 4. 2 - *Normality Assumption*

The first factor was the attitude. For the first factor, homogeneity of variances assumption

was tested. As shown in **Table 4.8**, because the Levene's test was insignificant ($p = .188$), the

homogeneity assumption was satisfied. Equal variances were assumed. For the first factor, the

mean score difference between participants who answered "yes" to flying during a global

disruption and participants who answered "no" to flying during a global disruption was

significant, $t(220) = 13.64$, $p < .001$. On average, attitude score of participants who answered

"yes" to flying during a global disruption was 10.25-point higher than participants who answered

"no" to flying during a global disruption.

Table 4. 8 - *T-Test (Attitude)*

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
						Mean Difference	Std. Error Difference	Lower	Upper
	F	*p*	*t*	*df*	*p*				
Equal Variances Assumed	1.75	.188	13.64	222.00	.000	10.25	.75	8.77	11.73
Equal Variances Not Assumed			13.89	209.93	.000	10.25	.74	8.79	11.70

The second factor was subjective norms. For the second factor, homogeneity of variances assumption was tested. As shown in **Table 4.9**, because the Levene's test was insignificant (*p* = .527), the homogeneity assumption was satisfied. Equal variances were assumed. For the second factor, the mean score difference between participants who answered "yes" to flying during a global disruption and participants who answered "no" to flying during a global disruption was significant, $t(220) = 5.38$, $p < .001$. On average, subjective norms score of participants who answered "yes" to flying during a global disruption was 1.61-point higher than participants who answered "no" to flying during a global disruption.

Table 4. 9 - *T-Test (Subjective Norms)*

	Levene's Test for Equality		t-test for Equality of Means

	F	p	t	df	p	Mean Difference	Std. Error Difference	95% Confidence Interval Lower	Upper
of Variances									
Equal Variances Assumed	.40	.527	5.38	222.00	.000	1.61	.30	1.02	2.20
Equal Variances Not Assumed	.40		5.35	195.12	.000	1.61	.30	1.01	2.20

The third factor was the travel risk. For the third factor, homogeneity of variances assumption was tested. As shown in **Table 4.10**, the Levene's test was significant, and the homogeneity assumption was not satisfied. As *t*-test was generally robust to violations of the homogeneity, the t-test was allowed to proceed, with unequal variances assumed (Posten, 1992). For the third factor, the mean score difference between participants who answered "yes" to flying during a global disruption and participants who answered "no" to flying during a global disruption was significant, $t(219.25) = 7.64$, $p < .001$. On average, travel risk score of participants who answered "yes" to flying during a global disruption was 1.82-point higher than participants who answered "no" to flying during a global disruption. The results of the *t*-tests indicated that all three dimensions of the ITF scale had sufficient discriminant validity. The researcher successfully established the construct validity of the ITF scale through the examination of the convergent validity and discriminant validity.

Table 4. 10 - *T-Test (Travel Risk)*

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | 95% Confidence Interval | |
	F	p	t	df	p	Mean Difference	Std. Error Difference	Lower	Upper
Equal Variances Assumed	11.79	.001	7.19	222.00	.000	1.82	.25	1.32	2.31
Equal Variances Not Assumed			7.64	219.25	.000	1.82	.24	1.35	2.28

Scale Application.

One application of the ITF scale was to target demographics that were more likely to fly during a global disruption. The dependent variable was participants' ITF score, which was the sum of all 12 question items. The researcher modified X_5 = Education Level. Only one participant answered "Trade school." As the sample size for the "Trade school" was too small, the researcher decided to focus on participants who answered "High school," "Two-year college," "Four-year college," and "Graduate degrees." The sample size was reduced to 221. The researcher also modified the dataset based on participants' responses to X_2 = Gender. Two participants answered, "I prefer not to say." As the sample size of participants who answered, "I prefer not to say" was too small, the researcher decided to focus on participants who answered "male" and "female." The sample size was reduced to 219.

The researcher investigated the relationship between airlines passengers' ITF score and their age. A correlation analysis was conducted, and the results indicated that the relationship between airlines passengers' ITF score and their age was insignificant ($r = -.020$, $p = .768$). The researcher explored the relationship between airlines passengers' ITF score and their travel frequency, and the results indicated that relationship between airlines passengers' ITF score and their travel frequency was significant ($r = .369$, $p < .001$). The results can be found in **Table 4.11**.

Table 4. 11 - *Correlation Between ITF Score and Background Variables*

	Age	Travel Frequency	ITF Score
Age			
Pearson Correlation	1.000	-.134	-.020
Sig. (2-tailed)		.047	.768
N	219	219	219
Travel Frequency			
Pearson Correlation	-.134	1.000	.369
Sig. (2-tailed)	.047		.000
N	219	219	219
ITF Score			
Pearson Correlation	-.020	.369	1.000
Sig. (2-tailed)	.768	.000	
N	219	219	219

The researcher also examined if the ITF score differed significantly between male participants and female participants. A *t*-test was conducted. Homogeneity of variances assumption was tested. As shown in **Table 4.12**, because the Levene's test was insignificant (p = .830), the homogeneity assumption was satisfied. Equal variances were assumed. The results of the *t*-test indicated that the ITF score differed significantly between male participants and female participants, $t(217) = 2.27$, $p = .024$. On average, male participants scored 2.95-point higher than female participants on the ITF scale.

Table 4. 12 - *T-Test (Gender)*

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | 95% Confidence Interval | |
| | | | | | | Mean Difference | Std. Error Difference | Lower | Upper |
	F	*p*	*t*	*df*	*p*				
Equal Variances Assumed	.05	.830	2.27	217.00	.024	2.95	1.30	.39	5.51
Equal Variances Not Assumed			2.24	216.99	.024	2.95	1.30	.39	5.51

Educational level measurement had four categories: "High school," "Two-year college," "Four-year college," and "Graduate degrees." An ANOVA was performed because there were more than two categories. Assumptions for ANOVA and *t*-test were similar. As mentioned earlier, the independence of observation and normality assumption were satisfied. Homogeneity

of variances assumption was tested. As shown in **Table 4.13**, because the Levene's test was insignificant (p = .997), the homogeneity assumption was satisfied. Equal variances were assumed. The results of the ANOVA indicated that the overall model was significant, $F(3, 215)$ = 4.05, p = .008.

Table 4. 13 - *ANOVA (Educational Level)*

	Levene Statistic	**df1**	**df2**	**Sig.**
total	.02	3	215	.997

	Sum of Squares	df	Mean Square	F	Sig.
Total Between Groups	1096.96	3	365.65	4.05	.008
Within Groups	19395.20	215	90.21		
Total	20492.16	218			

Because the ANOVA was significant, the researcher conducted a post-hoc test to indicate which paired comparisons were significantly different. As shown in **Table 4.14**, participants whose highest education was high school on average scored 5.38-point less than participants whose highest education was four-year college, p = .031. Participants whose highest education was high school on average scored 7.27-point less than participants whose highest education was a graduate degree, p = .004.

Table 4. 14 - *Tukey's Post Hoc Tests (Educational Level)*

Education 1	Education 2	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower	Upper

HS	2-yr	-5.76	2.50	.101	-12.23	.72
	4-yr	-5.38	1.95	.031	-10.42	-.34
	Graduate	-7.27	2.11	.004	-12.74	-1.79
2-yr	HS	5.76	2.50	.101	-.72	12.23
	4-yr	.38	2.05	.998	-4.94	5.69
	Graduate	-1.51	2.21	.904	-7.24	4.22
4-yr	HS	5.38	1.95	.031	.34	10.42
	2-yr	-.38	2.05	.998	-5.69	4.94
	Graduate	-1.89	1.56	.621	-5.92	2.15
Graduate	HS	7.27	2.11	.004	1.79	12.74
	2-yr	1.51	2.21	.904	-4.22	7.24
	4-yr	1.89	1.56	.621	-2.15	5.92

Income was measured categorically. Participants can choose from: "less than $9,876," "$9,876 to $40,125," "$40,126 to $85,525," "$85,526 to $163,300," "$163,301 to $207,350," and "over $207,350. An ANOVA was performed because there were more than two categories. Homogeneity of variances assumption was tested. As shown in **Table 4.15**, because the Levene's test was insignificant ($p = .695$), the homogeneity assumption was satisfied. Equal variances were assumed. The results of the ANOVA indicated that the overall model was significant, $F(5, 213) = 2.91, p = .015$.

Table 4. 15 - *ANOVA (Income)*

	Levene Statistic	**df1**	**df2**	**Sig.**
total	.61	5	213	.695

	Sum of Squares	df	Mean Square	F	Sig.
Total Between Groups	1308.96	5	261.79	2.91	.015
Within Groups	19183.20	213	90.06		
Total	20492.16	218			

The ANOVA of participants' income was significant. The researcher used the Tukey's post hoc tests to understand which paired comparisons were significantly different. As shown in **Table 4.16**, Participants who made less than $9,876 on average scored 9.05-point less than participants who made between $85,526 to $163,300, $p = .008$.

Table 4. 16 - *Tukey's Post Hoc Tests ANOVA (Income)*

Income 1	Income 2	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower	**Upper**
less than $9,876	$9,876 to $40,125	-5.37	2.42	.234	-12.34	1.60
	$40,126 to $85,525	-5.56	2.38	.185	-12.41	1.29
	$85,526 to $163,300	-9.05	2.60	.008	-16.52	-1.58
	$163,301 to $207,350	-.75	3.97	1.000	-12.17	10.67
	over $207,350	-7.00	3.97	.492	-18.42	4.42
$9,876 to $40,125	less than $9,876	5.37	2.42	.234	-1.60	12.34

	$40,126 to $85,525	-.19	1.59	1.000	-4.77	4.39
	$85,526 to $163,300	-3.68	1.90	.384	-9.15	1.79
	$163,301 to $207,350	4.62	3.55	.784	-5.60	14.84
	over $207,350	-1.63	3.55	.997	-11.85	8.59
$40,126 to $85,525	less than $9,876	5.56	2.38	.185	-1.29	12.41
	$9,876 to $40,125	.19	1.59	1.000	-4.39	4.77
	$85,526 to $163,300	-3.49	1.85	.414	-8.81	1.83
	$163,301 to $207,350	4.81	3.53	.748	-5.33	14.95
	over $207,350	-1.44	3.53	.748	-5.33	14.95
$85,526 to $163,300	less than $9,876	9.05	2.60	.008	1.58	16.52
	$9,876 to $40,125	3.68	1.90	.384	-1.79	9.15
	$40,126 to $85,525	3.49	1.85	.414	-1.83	8.81
	$163,301 to $207,350	8.30	3.68	.216	-2.27	18.87
	over $207,350	2.05	3.68	.994	-8.52	12.62
$163,301 to $207,350	less than $9,876	.75	3.97	1.000	-10.67	12.17
	$9,876 to $40,125	-4.62	3.55	.784	-14.84	5.60

	$40,126 to $85,525	-4.81	3.53	.748	-14.95	5.33
	$85,526 to $163,300	-8.30	3.68	.216	-18.87	2.27
	over $207,350	-6.25	4.75	.775	-19.90	7.40
over $207,350	less than $9,876	7.00	3.97	.492	-4.42	18.42
	$9,876 to $40,125	1.63	3.55	.997	-8.59	11.85
	$40,126 to $85,525	1.44	3.53	.997	-8.59	11.85
	$85,526 to $163,300	-2.05	3.68	.994	-12.62	8.52
	$163,301 to $207,350	6.25	4.75	.775	-7.40	19.90

Results of Hypotheses Testing

This section includes the results of hypothesis testing. The current study had five research hypotheses. Based on the results, the researcher reached a decision to reject or retain the null hypotheses.

Null hypothesis 1: The relationship between airline passengers' age and their intention to fly was insignificant. The relationship between airline passengers' age and their intention to fly was insignificant, $r = -.020$, $p = .768$. The researcher retained the first null hypothesis.

Null hypothesis 2: The ITF score differences between male airline passengers and female airline passengers were insignificant. On average, male participants scored 2.95-point higher than female airline passengers, and the difference was significant, $p = .024$. The researcher rejected the second null hypothesis.

Null hypothesis 3: The ITF score differences between airline passengers of different incomes were insignificant. Participants who made less than $9,876 on average scored 9.05-point less than participants who made between $85,526 to $163,300, and the difference was significant, $p = .008$. The researcher rejected the third null hypothesis.

Null hypothesis 4: The relationship between airline passengers' travel frequency and their intention to fly was insignificant. The relationship between the ITF score and participants' travel frequency was significant, $r = .369, p < .001$. The researcher rejected the fourth null hypothesis.

Null hypothesis 5: The ITF score differences between airline passengers of different educational levels were insignificant. Participants whose highest education was high school on average scored 5.38-point less than participants whose highest education was four-year college, and the difference was significant, $p = .031$. Participants whose highest education was high school on average scored 7.27-point less than participants whose highest education was a graduate degree, and the difference was significant, $p = .004$. The researcher rejected the fifth null hypothesis.

Summary

Chapter 4 included the results of descriptive statistics and inferential statistics. The ITF scale was validated in Chapter 4. The results indicated that (a) the ITF scale had sufficient reliability, (b) the ITF scale had three dimensions, and (c) the ITF scale had sufficient construct validity. The researcher also used the newly ITF scale to target demographics that were more likely to fly during a global disruption. Based on the results of statistical analysis, the researcher rejected or retained the null hypotheses. In the next chapter, the researcher discussed the results of the current study. Interpretations of the findings and recommendations for future research are provided in Chapter 5.

Chapter 5

Conclusions, Implications, and Recommendations

Summary of Study

The purpose of the current study was to create and validate the ITF scale that measured airline passengers' intention to fly during a global disruption. Based on the review of theories and prior studies, an initial scale was created, including five dimensions and 12 question items. The newly developed ITF scale was then distributed to the participants via MTurk. Based on the participants' responses, the researcher confirmed the dimensionality, reliability, and validity of the ITF scale. A total of 222 responses were included in the main sample. To assess the reliability of the ITF scale, the researcher calculated the Cronbach's α and Guttman Split-half coefficient to confirm the reliability of the ITF scale. A factor analysis was performed to examine the factor loadings of the question items. A series of data analyses were performed to assess the construct validity of the ITF scale. As an application of the newly developed scale, the researcher used the ITF scale to target demographics that were more likely to fly during a global disruption.

Summary of Findings

As mentioned in the last chapter, the Cronbach's α of the ITF scale was .89, and the Guttman's Split Half Coefficient was .95, suggesting sufficient reliability (Santos, 1999). The results of the reliability tests confirmed the reliability of the ITF scale. The researcher conducted a factor analysis to confirm the dimensions of the ITF scale, and eigenvalue of 1.0 or higher was used as the criteria for dimension confirmation. Based on the results of the factor analysis, the

ITF scale had three dimensions: attitude, subjective norms, and travel risk. All 12 question items remained in the ITF scale. Three dimensions explained 70.8% of variances in airline passengers' intention to fly during a global disruption with attitude accounting for 47.1% of the variances, subjective norms accounting for 13.8% of the variances, and travel risk accounting for 9.8% of the variances.

The researcher assessed the construct validity of the ITF scale through the investigation of convergent validity and discriminant validity. In the context of the current study, convergent validity referred to the extent to which dimensions in the ITF scale were measuring airline passengers' intention to fly during a global disruption. In the questionnaire, the researcher asked participants to rate their overall intention to fly during a global disruption. A correlation analysis was conducted between each of three dimensions of the ITF scale and the overall intention. The results indicated that airline passengers' overall intention was significantly correlated with attitude ($r = .957$, $p < .001$), subjective norms ($r = .525$, $r < .001$), and travel risk ($r = .622$, $p < .001$). Significant correlations indicated that the ITF scale had sufficient convergent validity.

The researcher also investigated the discriminant validity of the ITF scale. In the context of the current study, the discriminant validity referred to the extent to which the ITF scale can differentiate airline passengers who intended to fly and airline passengers who did not intend to fly during a global disruption. In the questionnaire, the researcher asked participants to choose whether they intended to fly during a global disruption. Multiple *t*-tests were used to determine whether the mean scores of participants' attitude, subjective norms, and travel risk differed significantly between participants who intended to fly and participants who did not intend to fly during a global disruption. The results indicated that (a) participants' mean attitude scores differed significantly between participants who intended to fly and participants who did not

intend to fly during a global disruption, $t(220) = 13.64, p < .001$, (b) participants' mean subjective norms scores differed significantly between participants who intended to fly and participants who did not intend to fly during a global disruption, $t(220) = 5.38, p < .001$, and (c) participants' mean travel risk scores differed significantly between participants who intended to fly from participants who did not intend to fly during a global disruption, $t(219.25) = 7.64, p < .001$. Significant t-tests suggested that the ITF scale had sufficient discriminant validity.

The ITF scale had practical significance. The researcher used the ITF scale to target demographics that were more likely to fly during a global disruption. The results suggested that (a) airline passengers who flew more frequently in the past were more likely to fly during a global disruption, (b) male airline passengers were more likely to fly than female airline passengers, (c) airline passengers whose highest formal education was four-year college were more likely to fly than airline passengers whose highest education was high school, (d) airline passengers whose highest formal education was graduate degree were more likely to fly than airline passengers whose highest education was high school, and (e) airline passengers who made between \$85,526 and \$163,300 were more likely to fly than airline passengers who made less than \$9,876.

Conclusions and Inferences

In this section, results and findings are organized in the context of each research question. The researcher interpreted the results based on the results of data analyses. Plausible explanations of the findings are provided.

Research question 1: What are the dimensions in the ITF scale? A series of data analyses were conducted, the results indicated that airline passengers' intention to fly during a

global disruption can be measured through attitude, subjective norms, and travel risk. Attitude was identified as a dimension in the ITF scale. As suggested in the theory of planned behavior, favorable attitude can lead to higher level of intention to perform a behavior (Ajzen, 1991). In the context of the current study, when airline passengers had a favorable attitude, they were more likely to fly during a global disruption. Subjective norm was identified as a dimension in the ITF scale. As suggested in the theory of planned behavior, people's intention to perform a behavior was higher when their friends and family members were supportive (Ajzen, 1991). In the context of the current study, airline passengers were more likely to fly when their friends and family members were supportive. Travel risk was identified as a dimension in the ITF scale. According to the protection motivation theory, people's intention to perform a behavior decreased when more risks were involved (Norman et al., 2005). In the context of the current study, airline passengers' intention to fly during a global disruption decreased with higher level of travel risk.

Research question 2: What is the relationship between airline passengers' age and their ITF score? The relationship between airline passengers' age and their intention to fly was insignificant, $r = -.020$, $p = .768$. The results indicated that older airline passengers had lower level of intention to fly during a global disruption, though the correlation was insignificant. One explanation was that airline passengers of different ages flew for different purposes (Shimamoto, 2019). The current study aimed to develop a scale that measured airline passengers' intention to fly during a global disruption. In the future, researchers might develop separate scales that measure airline passengers' intention to fly for business during a global disruption and airline passengers' intention to fly for leisure during a global disruption. There might be a significant relationship between age and intention to fly when it is specific to business or leisure travels.

Research question 3: What are the differences of the ITF score among airline passengers of different genders? On average, male airline passengers scored 2.95-point higher than female airline passengers, and the difference was significant, $p = .024$. One plausible explanation was that, compared to the female airline passengers, male airline passengers were more likely to take risks (Friedl, Pondorfer, & Schmidt, 2020). As flying during a global disruption involved risks, female airline passengers' intention to fly was lower because of their sensitivity to travel risks.

Research question 4: What are the differences of the ITF score among airline passengers of different incomes? Participants who made less than $9,876 on average scored 9.05-point less than participants who made between $85,526 to $163,300, and the difference was significant, $p = .008$. One plausible explanation was that airline passengers who made more money had more financial resources for flying. During a global disruption, flying might involve some unforeseeable expenses. Airline passengers who had more income can afford to fly during a global disruption, and they scored higher on the ITF scale.

Research question 5: What is the relationship between airline passengers' travel frequency and their ITF score? The relationship between the ITF score and participants' travel frequency was significant, $r = .372, p < .001$. It seemed likely that airline passengers who traveled more frequently in the past could be more familiar with air travels. During a global disruption, air travels might involve additional preparations. For example, during COVID-19 pandemic, airline passengers were required to wear a mask at the airport and during the flight (Schoening & Grimaldi, 2020). It was possible that airline passengers who were more familiar with air travels might get used to the protocols more easily, and they scored higher on the ITF scale.

Research question 6: What are the differences of the ITF score among airline passengers of different educational levels? Participants whose highest education was high school on average scored 5.38-point less than participants whose highest education was four-year college, and the difference was significant, $p = .031$. Participants whose highest education was high school on average scored 7.27-point less than participants whose highest education was graduate degree, and the difference was significant, $p = .004$. It appeared that airline passengers with higher levels of formal education scored higher on the ITF scale. It was possible that airline passengers who had received higher levels of formal education had better access to information. Yang (2020) suggested that decision making can be driven by emotions and evidence, and airline passengers who were informed might be more likely to make decision based on evidence rather than emotions. For example, one type of global disruption was terrorist attack. While a terrorist attack could enact negative emotions, airline passengers who had access to more recent updates and additional security measurements might decide to fly sooner.

Implications

There are multiple implications for the findings of this study. Implications are organized in three categories: (a) implications to the theories, (b) implications to the prior research, and (c) implications for practice.

Implications to the theories. The current study was grounded in the theory of planned behavior and protection motivation theory. According to the theory of planned behavior, intention can be measured through attitude, subjective norms, and perceived behavioral control (Ajzen, 1991). The results of the current study suggested that overall intention was significantly correlated with attitude ($r = .957$, $p < .001$) and subjective norms ($r = .525$, $p < .001$). Question

items designed to understand attitude, subjective norms, and perceived behavioral control remained in the ITF scale. Notably, based on the results of the factor analysis, three dimensions identified from the theory of planned behavior were reduced to two. In the context of the current study, perceived behavioral control was not its own dimension. The results and findings partially supported the theory of planned behavior, and intention can indeed be measured through attitude and subjective norms.

According to the protection motivation theory, intention can be measured through threat appraisal (Norman et al., 2005). The researcher included question items that evaluated the risk of flying during a global disruption. Question items designed to understand travel risk and international travel remained in the ITF scale. Notably, based on the results of the factor analysis, two dimensions identified from the protection motivation theory were reduced to one. International travel was not its own dimension. The results and findings partially supported the protection motivation theory, and intention can indeed be measured through travel risk.

Implications to prior research. The researcher of the current study was informed by prior research results. Question items were designed based on these earlier studies. The results of the current study supported the findings of several prior studies. Specifically, intention was significantly correlated with attitude, which supported the research findings of Nguyen and Coca-Stefaniak (2020), Rather, (2021), Qiao et al. (2021), Bae and Chang (2020), Wachyuni and Kusumaningrum, (2020), and Lee et al. (2012). Intention was significantly correlated with subjective norms, which supported the research findings of Nguyen and Coca-Stefaniak (2020), Qiao et al. (2021), Bae and Chang (2020), Wachyuni and Kusumaningrum (2020), and Lee et al. (2012). Intention was significantly correlated with travel risk, which supported the research findings of Perić et al. (2021) and Floyd et al. (2004).

Implications to practice. The purpose of the current study was to develop and validate the ITF scale. Demands for air travels might fluctuate during a global disruption. There was lack of measurement of airline passengers' intention to fly during a global disruption. The researcher used the ITF scale to target demographics that were more likely to fly during a global disruption. Instead of investing in mass marketing, airlines can seek out demographics that may be more likely to fly during a global disruption and provide customized services. Furthermore, the ITF scale can be incorporated into airline policymaking. Before implementing a new policy, airlines can conduct an experiment to examine whether the proposed policy could significantly influence airline passengers' intention to fly during a global disruption.

Generalizability, Limitations, and Delimitations

Generalizability. The researcher assessed the population generalizability and ecological generalizability. Population generalizability referred to the extent to which the results can be generalized to the target population (Reis, & Judd, 2000). The target population of the current study was the airline passengers in the U.S. who were at least 18 years old. As mentioned in Chapter 3, the current study used convenience sampling. Participants were airline passengers in the U.S. who also had access to the MTurk. Because the demographics of the MTurk users might differ from the target population, the current study's results and findings has limited population generalizability in certain demographics. For example, in the sample of the current study, only one participant answered "Trade school" as their formal education, and therefore the results and findings of the current study has limited generalizability towards airline passengers who went to trade school. In the recommendation section, the researcher suggested that a similar study should be conducted with a larger random sample, and the findings of the replication study can be compared with the findings of the current study.

Ecological generalizability referred to the extent to which the results and findings can be generalized in other settings (Reis, & Judd, 2000). In terms of the ecological generalizability, the study period of the current study was May 2021. During the study period, COVID-19 pandemic was still present in the United States. Data collected during a pandemic might have limited generalizability to periods where no pandemic was present. The researcher recommended replications of the current study in the future.

Study limitations and delimitations. Study limitations and delimitations were mentioned in Chapter 1. In the next section, the researcher made several recommendations based on the limitations and delimitations. For the convenience of the readers, limitations and delimitations were reiterated in this section.

Limitations. Limitations referred to conditions that were not controlled by the researcher. Results and findings should be interpreted with the context of the limitations (Theofanidis & Fountouki, 2018). The current study had several limitations:

1. Sample representativeness. The demographic makeup of the sample cannot be determined until the end of the data collection. For example, there was only one participant who went to trade school. The sample was not representative of airline passengers who graduated from a trade school. The demographic representativeness might impact the population generalizability of the results and findings.

2. Personality trait. Question items can be answered on a five-point Likert-type scale. Participants might answer the questionnaire differently because of their personality traits. For example, participants who were low on agreeableness personality trait might chose "strongly disagree" more often. The researcher cannot control the personality trait of the participants.

3. Self-reporting. The current study used MTurk and Qualtrics for data collection. Participation was anonymous, and the researcher cannot verify questionnaire response with the participants. Because participants were compensated, some participants might have rushed through the questionnaire. The researcher was not physically present to supervisor the questionnaire administration.

Delimitations. Delimitations referred to conditions that were decided by the researcher (Theofanidis & Fountouki, 2018). Results findings should be interpreted with the context of the delimitations. The current study had several delimitations:

1. Study period. The current research's data collection took place in May 2021. The researcher decided to collect data during this time. The purpose of the current study was to understand airline passengers' intention to fly during a global disruption. In May 2021, COVID-19 was present. It was possible that participants answered the questionnaire differently during the COVID-19 pandemic. In the following section, the researcher recommended a replication study to be conducted after the COVID-19 pandemic.

2. Instrument. The researcher designed the question items. Based on the review of the literature, 12 question items were developed. Before data collection, the face validity of the instrument was examined by multiple faculty members at the Florida Institute of Technology. A series of data analyses were used to assess the validity and reliability of the instrument.

3. Sampling strategy. The current study used convenience sampling. Participations were recruited based on availability. The results could be different if random sampling was used. The researcher decided to use convenience sampling using MTurk as it allowed the collection of a large sample within a short period of time.

4. Target sample. The researcher decided the target sample. The target population was airline passengers in the United States who were at least 18 years old. The current study did not include participants from other countries. The airline industry served people worldwide. Input from airline passengers in other countries might be valuable. The researcher decided to focus on airline passengers in the United States for the scope of the research.

5. *Sample size.* Comrey and Lee (2013) suggested that for a factor analysis, a sample size of 200 was fair, while a sample size of 1,000 was excellent. Because the current study was self-funded, and the researcher had limited financial resources, the researcher decided to include 200 participants in the current study. In the recommendation section, the researcher suggested a replication study with a larger sample.

Recommendations for Future Studies

The recommendations section is divided into several subsections. The two subsections included recommendations relative to the current study's limitations and delimitations. The researcher also included recommendations relative to implications on prior research, and recommendations relative to practical applications.

Recommendations relative to the current study's limitations.

1. As mentioned in the limitation section, the current study had limited generalizability towards certain demographics. Future studies can focus on groups that were not represented in the current study. For example, the current study only had one participant who went to trade school. The future studies might consider conducting a similar research with participants from trade schools.

2. In the current study, the researcher did not examine the personality trait of the participants. For the future study, a personality test might be incorporated into the study. Based on the results of the personality test, the researcher can understand if participants' personality traits influence their questionnaire responses.

3. Participants of the current study answered the question items through self-reporting. Other forms of questionnaire administrations might be considered for the future research. For example, future studies might consider administering the instrument in person. During an in-person questionnaire administration, the researcher can verify the responses with the participants.

Recommendations relative to the current study's delimitations.

1. Data were collected in May 2021. The ITF scale was designed to understand airline passengers' intention to fly during a global disruption. Participants might answer the questionnaire differently during the COVID-19 pandemic. One recommendation is to replicate the current study in a different study period where COVID-19 pandemic has subsided. The validity and reliability of the ITF scale can be re-assessed using samples from different study periods.

2. The researcher of the current study identified the dimensions based on the theories, and question items were developed based on the prior research. The dimensions can also be explored and extracted based on participants' input. In the context of the current study, there were multiple studies that were relevant to the research topic, and multiple studies had used the theory of planned behavior and protection motivation theory for grounding, and thus the researcher chose to identify dimensions based on the literature. It was possible to identify dimensions through participants' input. One recommendation for the future research is to identify

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dimensions by collection of airline passengers' input. The researcher can ask the airline passengers regarding their intention to fly during a global disruption, and scale dimensions may be extracted through the airline passengers' responses.

3. The researcher used convenience sampling for data collection. Participants volunteered to be part of the current study. A recommendation for the future study is that sample may be selected randomly. Results from a convenience sample and a random sample can be compared.

4. The target population of the current study included airline passengers in the United States who were at least 18 years old. For future studies, airline passengers from other countries may be included. For example, a similar study can be conducted with a sample from India. Results from a U.S. sample and an Indian sample can be compared.

5. The sample size of the current study was 200. Comrey and Lee (2013) indicated that although a sample size of 200 was sufficient for the factor analysis, a sample size of 1,000 would be excellent. In the future, funded research may include a larger sample. Results and findings of the current study can be compared with results from a larger sample.

Recommendations relative to implications on prior research.

1. The results of the current study supported the theory of planned behavior. The results indicated that intention can be measured by attitude and subjective norms. Question items developed based on the theory of planned behavior remained in the ITF scale. Future research could also use the theory of planned behavior to ground their studies. The perceived behavioral control dimension merged with the attitude dimension, which differed from the framework

proposed in the theory of planned behavior. Future studies should adopt a similar approach and examine if perceived behavioral control is its own dimension.

2. The results of the current study supported the protection motivation theory. The results indicated that intention can be measured by travel risk. Question items developed based on the protection motivation theory remained in the ITF scale. Future research could also use the protection motivation theory to ground their studies.

3. The results of the current study supported the findings of prior studies. Several prior studies indicated that intention was significantly correlated with attitude and subjective norms (Nguyen & Coca-Stefaniak, 2020; Rather, 2021; Qiao et al., 2021; Bae & Chang, 2020; Wachyuni & Kusumaningrum, 2020; Lee et al., 2012). The findings of the current study indicated that airline passengers' intention to fly during a global disruption can be measured by attitude, subjective norms, and travel risk, extending the literature by adding travel risk into the framework. Travel risk was unique to the current study because of the aviation context. Future studies should incorporate factors that were unique to their research contexts, so a growing body of literature can further support the measurement of intention with different contexts.

Recommendations relative to the practical applications.

1. The purpose of the current study was to create and validate the ITF scale. The ITF scale measured airline passengers' intention to fly during a global disruption. When a global disruption happens, airlines, hotels, and rental car companies can use the ITF scale to understand airline passengers' intention to fly.

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2. The ITF scale can be used for policymaking. During the COVID-19 pandemic, airlines enacted different polices. Delta Air Lines offered to block the middle seats to encourage inflight social distancing (Delta, 2020). United Airlines eliminated the flight change fee indefinitely (United Airlines, 2020). Before implementing a new policy, airlines can conduct studies to understand whether the new policy can significantly influence airline passengers' intention to fly during a global disruption.

3. As an application of the ITF scale, the researcher targeted demographics that were more likely to fly during a global disruption. The results identified several demographics that were more likely to fly during a global disruption, and the researcher provided some interpretations and possible explanations of why certain groups of airline passengers were more likely to fly during a global disruption than others. For future studies, it might be useful to further investigate the relationship between the demographics of airline passengers and their intention to fly during a global disruption, and additional background variables can be examined.

Conclusion

The current study successfully developed and validated the ITF scale. The findings supported the frameworks proposed in the theory of planned behavior and protection motivation theory. The ITF scale enabled the measurement of airline passengers' intention to fly during a global disruption. As an application of the ITF scale, the researcher identified demographics that were more likely to fly during a global disruption. The current study provided a range of replication opportunities. The researcher also made several recommendations, which could further improve the measurement of airline passengers' intention to fly during a global disruption.

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Appendix A

Instrument

Part I. Intention to Fly (ITF) Scale

A global disruption can be (a) a pandemic, such as COVID-19, (b) a terrorist attack, such as 9/11, or (c) a financial downturn, such as the 2008 financial crisis. You are a commercial airline passenger. Please answer the following questions regarding your intention to fly during a global disruption. During a global disruption…

1. Flying during a global disruption is okay
2. I like the idea of flying during a global disruption
3. It is okay to fly during a global disruption
4. I have the ability to fly during a global disruption
5. I am capable of flying during a global disruption
6. It is easy to fly during a global disruption
7. My friends will think negatively of me if I fly during a global disruption
8. My family will think negatively of me if I fly during a global disruption
9. I will fly when airlines have resumed flight operations
10. I will fly if airlines have available flights
11. International destinations are as safe as the domestic destinations
12. Domestic destinations are as safe as the international destinations

1-12 can be answered by Strong disagree (1), Agree (2), Neutral (3), Agree (4), and Strongly disagree (5)

Part II. Overall Intention

O1. I intend to fly during a global disruption.
Strong disagree (1), Agree (2), Neutral (3), Agree (4), and Strongly disagree (5)
O2. Will you fly during a global disruption?
Yes or no

Part III. Demographics

D1. How old are you?
D2. What is your gender? (Male/Female/I do not wish to say)
D3. What was your income in 2020? (less than $9,876/$9,876 to $40,125/$40,126 to $85,525/$85,526 to $163,300/$163,301 to $207,350/over $207,350)
D4. How many times did you fly in 2020?
D5. What is the highest formal education that you have received? (none, high school, trade school, 2-year college, 4-year college, graduate degree)

Raw Data

ITF1	ITF2	ITF3	ITF4	ITF5
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
3-Neutral	4-Agree	5-Strongly agree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	3-Neutral	4-Agree
4-Agree	3-Neutral	5-Strongly agree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	2-Disagree
2-Disagree	2-Disagree	2-Disagree	3-Neutral	4-Agree
5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
4-Agree	2-Disagree	4-Agree	2-Disagree	4-Agree
2-Disagree	1-Strongly disagree	2-Disagree	3-Neutral	3-Neutral
3-Neutral	3-Neutral	3-Neutral	4-Agree	4-Agree
4-Agree	2-Disagree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	2-Disagree	4-Agree	4-Agree
3-Neutral	1-Strongly disagree	3-Neutral	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
3-Neutral	2-Disagree	3-Neutral	4-Agree	4-Agree
4-Agree	3-Neutral	3-Neutral	4-Agree	3-Neutral
2-Disagree	2-Disagree	2-Disagree	2-Disagree	2-Disagree
3-Neutral	1-Strongly disagree	3-Neutral	2-Disagree	2-Disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
5-Strongly agree	3-Neutral	5-Strongly agree	5-Strongly agree	5-Strongly agree
4-Agree	4-Agree	4-Agree	5-Strongly agree	5-Strongly agree
3-Neutral	2-Disagree	2-Disagree	3-Neutral	3-Neutral
3-Neutral	2-Disagree	2-Disagree	3-Neutral	3-Neutral
2-Disagree	3-Neutral	5-Strongly agree	3-Neutral	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	3-Neutral
2-Disagree	1-Strongly disagree	2-Disagree	3-Neutral	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
3-Neutral	2-Disagree	3-Neutral	3-Neutral	3-Neutral
4-Agree	5-Strongly agree	3-Neutral	4-Agree	5-Strongly agree
4-Agree	1-Strongly disagree	4-Agree	3-Neutral	3-Neutral
3-Neutral	1-Strongly disagree	3-Neutral	3-Neutral	3-Neutral

3-Neutral	2-Disagree	2-Disagree	4-Agree	4-Agree
3-Neutral	3-Neutral	4-Agree	4-Agree	4-Agree
4-Agree	4-Agree	5-Strongly agree	2-Disagree	3-Neutral
2-Disagree	1-Strongly disagree	2-Disagree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
2-Disagree	1-Strongly disagree	2-Disagree	3-Neutral	2-Disagree
2-Disagree	1-Strongly disagree	2-Disagree	2-Disagree	3-Neutral
5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
3-Neutral	2-Disagree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
3-Neutral	2-Disagree	3-Neutral	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	5-Strongly agree
1-Strongly disagree	2-Disagree	1-Strongly disagree	2-Disagree	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	3-Neutral
3-Neutral	2-Disagree	4-Agree	4-Agree	4-Agree
5-Strongly agree	3-Neutral	5-Strongly agree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
4-Agree	4-Agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
2-Disagree	1-Strongly disagree	1-Strongly disagree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	3-Neutral	5-Strongly agree	5-Strongly agree
3-Neutral	2-Disagree	3-Neutral	3-Neutral	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
3-Neutral	2-Disagree	4-Agree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	2-Disagree	4-Agree	4-Agree
5-Strongly agree	4-Agree	5-Strongly agree	4-Agree	5-Strongly agree
2-Disagree	2-Disagree	2-Disagree	1-Strongly disagree	2-Disagree
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
4-Agree	2-Disagree	4-Agree	4-Agree	4-Agree
2-Disagree	2-Disagree	3-Neutral	3-Neutral	3-Neutral
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
3-Neutral	2-Disagree	2-Disagree	3-Neutral	3-Neutral
3-Neutral	2-Disagree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	3-Neutral	2-Disagree	2-Disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	4-Agree

4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
4-Agree	3-Neutral	4-Agree	5-Strongly agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	2-Disagree	4-Agree
4-Agree	4-Agree	4-Agree	3-Neutral	3-Neutral
3-Neutral	2-Disagree	3-Neutral	3-Neutral	4-Agree
5-Strongly agree	4-Agree	3-Neutral	4-Agree	5-Strongly agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
2-Disagree	1-Strongly disagree	3-Neutral	3-Neutral	3-Neutral
2-Disagree	2-Disagree	2-Disagree	3-Neutral	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	2-Disagree	2-Disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	2-Disagree
2-Disagree	1-Strongly disagree	2-Disagree	4-Agree	4-Agree
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
3-Neutral	2-Disagree	2-Disagree	2-Disagree	2-Disagree
3-Neutral	2-Disagree	3-Neutral	2-Disagree	4-Agree
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	1-Strongly disagree
4-Agree	4-Agree	3-Neutral	4-Agree	4-Agree
2-Disagree	1-Strongly disagree	2-Disagree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	3-Neutral
2-Disagree	1-Strongly disagree	2-Disagree	4-Agree	4-Agree
2-Disagree	1-Strongly disagree	2-Disagree	3-Neutral	3-Neutral
5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
4-Agree	4-Agree	5-Strongly agree	4-Agree	5-Strongly agree
4-Agree	4-Agree	4-Agree	4-Agree	5-Strongly agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	3-Neutral
2-Disagree	2-Disagree	1-Strongly disagree	4-Agree	4-Agree
2-Disagree	1-Strongly disagree	2-Disagree	1-Strongly disagree	1-Strongly disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	2-Disagree	2-Disagree
3-Neutral	2-Disagree	1-Strongly disagree	3-Neutral	
3-Neutral	2-Disagree	2-Disagree	2-Disagree	2-Disagree
1-Strongly disagree	1-Strongly disagree	2-Disagree	2-Disagree	2-Disagree

3-Neutral	1-Strongly disagree	3-Neutral	5-Strongly agree	5-Strongly agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	4-Agree	4-Agree
3-Neutral	2-Disagree	3-Neutral	4-Agree	4-Agree
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2-Disagree	2-Disagree	2-Disagree	3-Neutral	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
1-Strongly disagree	1-Strongly disagree	2-Disagree	5-Strongly agree	4-Agree
5-Strongly agree	4-Agree	4-Agree	4-Agree	4-Agree
4-Agree	2-Disagree	4-Agree	4-Agree	4-Agree
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1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	3-Neutral
5-Strongly agree	2-Disagree	5-Strongly agree	4-Agree	5-Strongly agree
2-Disagree	1-Strongly disagree	3-Neutral	4-Agree	4-Agree
3-Neutral	3-Neutral	3-Neutral	4-Agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	3-Neutral	2-Disagree
4-Agree	3-Neutral	3-Neutral	3-Neutral	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
3-Neutral	2-Disagree	4-Agree	3-Neutral	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
3-Neutral	2-Disagree	3-Neutral	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	3-Neutral	4-Agree	2-Disagree
3-Neutral	3-Neutral	3-Neutral	4-Agree	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
2-Disagree	1-Strongly disagree	2-Disagree	3-Neutral	4-Agree
3-Neutral	2-Disagree	3-Neutral	3-Neutral	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	4-Agree
2-Disagree	2-Disagree	2-Disagree	4-Agree	
4-Agree	3-Neutral	4-Agree	5-Strongly agree	5-Strongly agree
4-Agree	2-Disagree	4-Agree	4-Agree	4-Agree
2-Disagree	1-Strongly disagree	2-Disagree	3-Neutral	3-Neutral
4-Agree	2-Disagree	4-Agree	5-Strongly agree	5-Strongly agree
4-Agree	2-Disagree	2-Disagree	3-Neutral	4-Agree
3-Neutral	2-Disagree	3-Neutral	3-Neutral	3-Neutral
3-Neutral	2-Disagree	3-Neutral	3-Neutral	4-Agree
4-Agree	3-Neutral	5-Strongly agree	4-Agree	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
3-Neutral	5-Strongly agree	2-Disagree	3-Neutral	4-Agree

4-Agree	3-Neutral	4-Agree	5-Strongly agree	5-Strongly agree
3-Neutral	3-Neutral	4-Agree	3-Neutral	4-Agree
3-Neutral	2-Disagree	3-Neutral	3-Neutral	2-Disagree
4-Agree	3-Neutral	4-Agree	3-Neutral	3-Neutral
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	3-Neutral	3-Neutral	3-Neutral
3-Neutral	3-Neutral	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	1-Strongly disagree	2-Disagree	5-Strongly agree	5-Strongly agree
3-Neutral	3-Neutral	3-Neutral	3-Neutral	4-Agree
4-Agree	4-Agree	3-Neutral	3-Neutral	4-Agree
1-Strongly disagree	1-Strongly disagree	2-Disagree	3-Neutral	1-Strongly disagree
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	3-Neutral	2-Disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
3-Neutral	3-Neutral	3-Neutral	5-Strongly agree	5-Strongly agree
2-Disagree	2-Disagree	2-Disagree	3-Neutral	3-Neutral
4-Agree	3-Neutral	2-Disagree	3-Neutral	3-Neutral
2-Disagree	2-Disagree	3-Neutral	4-Agree	4-Agree
4-Agree	2-Disagree	4-Agree	4-Agree	4-Agree
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	3-Neutral
4-Agree	3-Neutral	4-Agree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
4-Agree	4-Agree	5-Strongly agree	5-Strongly agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
2-Disagree	1-Strongly disagree	2-Disagree	1-Strongly disagree	1-Strongly disagree
3-Neutral	4-Agree	3-Neutral	4-Agree	3-Neutral
4-Agree	2-Disagree	4-Agree	5-Strongly agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	4-Agree	5-Strongly agree
3-Neutral	1-Strongly disagree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	2-Disagree	4-Agree
3-Neutral	2-Disagree	3-Neutral	2-Disagree	3-Neutral
2-Disagree	1-Strongly disagree	2-Disagree	4-Agree	4-Agree
3-Neutral	1-Strongly disagree	3-Neutral	4-Agree	4-Agree
2-Disagree	2-Disagree	3-Neutral	3-Neutral	4-Agree
2-Disagree	2-Disagree	2-Disagree	3-Neutral	3-Neutral
2-Disagree	1-Strongly disagree	2-Disagree	4-Agree	5-Strongly agree

4-Agree	4-Agree	3-Neutral	4-Agree	4-Agree
3-Neutral	2-Disagree	3-Neutral	4-Agree	4-Agree
4-Agree	2-Disagree	3-Neutral	3-Neutral	4-Agree
2-Disagree	2-Disagree	2-Disagree	2-Disagree	2-Disagree
4-Agree	2-Disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
3-Neutral	2-Disagree	2-Disagree	3-Neutral	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	2-Disagree	2-Disagree
3-Neutral	2-Disagree	3-Neutral	4-Agree	4-Agree
4-Agree	1-Strongly disagree	4-Agree	5-Strongly agree	5-Strongly agree
5-Strongly agree	3-Neutral	5-Strongly agree	5-Strongly agree	5-Strongly agree
2-Disagree	1-Strongly disagree	2-Disagree	4-Agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	1-Strongly disagree	1-Strongly disagree
2-Disagree	1-Strongly disagree	1-Strongly disagree	2-Disagree	1-Strongly disagree
4-Agree	5-Strongly agree	4-Agree	5-Strongly agree	4-Agree
5-Strongly agree	5-Strongly agree	5-Strongly agree	4-Agree	5-Strongly agree
2-Disagree	1-Strongly disagree	3-Neutral	1-Strongly disagree	1-Strongly disagree
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
4-Agree	3-Neutral	4-Agree	3-Neutral	3-Neutral
3-Neutral	1-Strongly disagree	2-Disagree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
4-Agree	3-Neutral	4-Agree	3-Neutral	4-Agree
4-Agree	3-Neutral	4-Agree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
5-Strongly agree	2-Disagree	5-Strongly agree	4-Agree	4-Agree
3-Neutral	2-Disagree	3-Neutral	4-Agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	1-Strongly disagree
2-Disagree	1-Strongly disagree	2-Disagree	2-Disagree	2-Disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree

ITF6	ITF7	ITF8	ITF9	ITF10
1-Strongly disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
2-Disagree	4-Agree	4-Agree	3-Neutral	2-Disagree
4-Agree	1-Strongly disagree	1-Strongly disagree	4-Agree	4-Agree

5-Strongly agree	5-Strongly agree	5-Strongly agree	1-Strongly disagree	1-Strongly disagree
5-Strongly agree	5-Strongly agree	3-Neutral	4-Agree	4-Agree
3-Neutral	2-Disagree	3-Neutral	2-Disagree	4-Agree
2-Disagree	2-Disagree	1-Strongly disagree	4-Agree	4-Agree
2-Disagree	5-Strongly agree	4-Agree	2-Disagree	2-Disagree
2-Disagree	3-Neutral	3-Neutral	2-Disagree	2-Disagree
5-Strongly agree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
2-Disagree	1-Strongly disagree	3-Neutral	4-Agree	4-Agree
2-Disagree	3-Neutral	3-Neutral	3-Neutral	3-Neutral
2-Disagree	4-Agree	4-Agree	4-Agree	3-Neutral
3-Neutral	3-Neutral	4-Agree	4-Agree	4-Agree
1-Strongly disagree	3-Neutral	3-Neutral	4-Agree	3-Neutral
2-Disagree	3-Neutral	4-Agree	3-Neutral	3-Neutral
1-Strongly disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
2-Disagree	5-Strongly agree	4-Agree	4-Agree	2-Disagree
4-Agree	3-Neutral	3-Neutral	4-Agree	3-Neutral
2-Disagree	4-Agree	4-Agree	2-Disagree	2-Disagree
2-Disagree	4-Agree	3-Neutral	4-Agree	3-Neutral
1-Strongly disagree	5-Strongly agree	5-Strongly agree	2-Disagree	1-Strongly disagree
2-Disagree	1-Strongly disagree	1-Strongly disagree	4-Agree	4-Agree
5-Strongly agree	1-Strongly disagree	1-Strongly disagree	4-Agree	4-Agree
2-Disagree	2-Disagree	4-Agree	2-Disagree	2-Disagree
1-Strongly disagree	3-Neutral	4-Agree	3-Neutral	3-Neutral
3-Neutral	3-Neutral	2-Disagree	4-Agree	4-Agree
2-Disagree	4-Agree	4-Agree	3-Neutral	3-Neutral
1-Strongly disagree	2-Disagree	2-Disagree	3-Neutral	3-Neutral
3-Neutral	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree	1-Strongly disagree
3-Neutral	3-Neutral	3-Neutral	4-Agree	4-Agree
3-Neutral	4-Agree	5-Strongly agree	3-Neutral	4-Agree
3-Neutral	1-Strongly disagree	4-Agree	5-Strongly agree	4-Agree
2-Disagree	3-Neutral	3-Neutral	1-Strongly disagree	1-Strongly disagree
2-Disagree	2-Disagree	1-Strongly disagree	3-Neutral	3-Neutral
3-Neutral	3-Neutral	3-Neutral	3-Neutral	4-Agree
3-Neutral	3-Neutral	4-Agree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	2-Disagree	5-Strongly agree	2-Disagree	2-Disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	3-Neutral	3-Neutral
4-Agree	3-Neutral	2-Disagree	4-Agree	4-Agree
1-Strongly disagree	4-Agree	5-Strongly agree	3-Neutral	3-Neutral
1-Strongly disagree	4-Agree	4-Agree	2-Disagree	3-Neutral

5-Strongly agree	5-Strongly agree	5-Strongly agree	4-Agree	4-Agree
3-Neutral	3-Neutral	2-Disagree	3-Neutral	4-Agree
1-Strongly disagree	4-Agree	4-Agree	3-Neutral	3-Neutral
2-Disagree	2-Disagree	2-Disagree	3-Neutral	3-Neutral
3-Neutral	1-Strongly disagree	1-Strongly disagree	4-Agree	5-Strongly agree
2-Disagree	4-Agree	4-Agree	4-Agree	3-Neutral
1-Strongly disagree	3-Neutral	3-Neutral	2-Disagree	1-Strongly disagree
3-Neutral	2-Disagree	2-Disagree	3-Neutral	4-Agree
4-Agree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	4-Agree	4-Agree
4-Agree	2-Disagree	2-Disagree	5-Strongly agree	5-Strongly agree
2-Disagree	3-Neutral	3-Neutral	4-Agree	2-Disagree
3-Neutral	3-Neutral	3-Neutral	3-Neutral	3-Neutral
2-Disagree	3-Neutral	3-Neutral	4-Agree	4-Agree
1-Strongly disagree	3-Neutral	3-Neutral	1-Strongly disagree	1-Strongly disagree
2-Disagree	2-Disagree	2-Disagree	3-Neutral	4-Agree
4-Agree	1-Strongly disagree	1-Strongly disagree	4-Agree	4-Agree
2-Disagree	2-Disagree	4-Agree	4-Agree	4-Agree
2-Disagree	3-Neutral	3-Neutral	1-Strongly disagree	1-Strongly disagree
4-Agree	5-Strongly agree	5-Strongly agree	4-Agree	5-Strongly agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	3-Neutral	5-Strongly agree
2-Disagree	4-Agree	3-Neutral	4-Agree	4-Agree
2-Disagree	3-Neutral	3-Neutral	4-Agree	4-Agree
2-Disagree	3-Neutral	3-Neutral	3-Neutral	3-Neutral
2-Disagree	3-Neutral	3-Neutral	3-Neutral	3-Neutral
3-Neutral	2-Disagree	2-Disagree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	3-Neutral	4-Agree
2-Disagree	3-Neutral	3-Neutral	4-Agree	4-Agree
1-Strongly disagree	1-Strongly disagree	4-Agree	3-Neutral	4-Agree
1-Strongly disagree	3-Neutral	4-Agree	5-Strongly agree	3-Neutral
2-Disagree	2-Disagree	4-Agree	2-Disagree	2-Disagree
2-Disagree	2-Disagree	2-Disagree	5-Strongly agree	4-Agree
5-Strongly agree	4-Agree	3-Neutral	5-Strongly agree	4-Agree
2-Disagree	2-Disagree	3-Neutral	3-Neutral	3-Neutral
4-Agree	4-Agree	3-Neutral	4-Agree	4-Agree
2-Disagree	4-Agree	2-Disagree	2-Disagree	2-Disagree
4-Agree	4-Agree	3-Neutral	4-Agree	4-Agree
1-Strongly disagree	3-Neutral	3-Neutral	3-Neutral	3-Neutral
5-Strongly agree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
3-Neutral	3-Neutral	3-Neutral	4-Agree	4-Agree

2-Disagree	4-Agree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	3-Neutral	4-Agree
1-Strongly disagree	4-Agree	4-Agree	3-Neutral	3-Neutral
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
3-Neutral	3-Neutral	3-Neutral	5-Strongly agree	4-Agree
2-Disagree	3-Neutral	2-Disagree	4-Agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	2-Disagree	2-Disagree
3-Neutral	2-Disagree	2-Disagree	4-Agree	4-Agree
2-Disagree	4-Agree	4-Agree	4-Agree	4-Agree
3-Neutral	3-Neutral	3-Neutral	5-Strongly agree	5-Strongly agree
2-Disagree	4-Agree	3-Neutral	4-Agree	2-Disagree
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	4-Agree	3-Neutral
1-Strongly disagree	3-Neutral	3-Neutral	1-Strongly disagree	1-Strongly disagree
2-Disagree	3-Neutral	3-Neutral	1-Strongly disagree	1-Strongly disagree
2-Disagree	3-Neutral	4-Agree	3-Neutral	1-Strongly disagree
5-Strongly agree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
3-Neutral	2-Disagree	3-Neutral	5-Strongly agree	4-Agree
4-Agree	5-Strongly agree	5-Strongly agree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	5-Strongly agree
2-Disagree	3-Neutral	4-Agree	4-Agree	4-Agree
4-Agree	5-Strongly agree	5-Strongly agree	4-Agree	5-Strongly agree
1-Strongly disagree	2-Disagree	1-Strongly disagree	4-Agree	4-Agree
4-Agree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	3-Neutral	4-Agree	4-Agree	4-Agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	3-Neutral	4-Agree
2-Disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
3-Neutral	3-Neutral	4-Agree	3-Neutral	3-Neutral
2-Disagree	3-Neutral	3-Neutral	3-Neutral	3-Neutral
2-Disagree	4-Agree	4-Agree	3-Neutral	2-Disagree
1-Strongly disagree	3-Neutral	3-Neutral	1-Strongly disagree	1-Strongly disagree
2-Disagree	5-Strongly agree	5-Strongly agree	4-Agree	3-Neutral
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
4-Agree	3-Neutral	3-Neutral	4-Agree	4-Agree
2-Disagree	3-Neutral	4-Agree	4-Agree	4-Agree
2-Disagree	4-Agree	4-Agree	3-Neutral	3-Neutral
1-Strongly disagree	5-Strongly agree	5-Strongly agree	3-Neutral	3-Neutral
1-Strongly disagree	1-Strongly disagree	2-Disagree	5-Strongly agree	4-Agree
4-Agree	2-Disagree	2-Disagree	5-Strongly agree	4-Agree

2-Disagree	3-Neutral	3-Neutral	3-Neutral	4-Agree
4-Agree	4-Agree	4-Agree	2-Disagree	2-Disagree
2-Disagree	4-Agree	5-Strongly agree	2-Disagree	2-Disagree
2-Disagree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
2-Disagree	3-Neutral	3-Neutral	4-Agree	4-Agree
3-Neutral	4-Agree	4-Agree	4-Agree	3-Neutral
2-Disagree	4-Agree	3-Neutral	3-Neutral	3-Neutral
3-Neutral	3-Neutral	3-Neutral	4-Agree	3-Neutral
3-Neutral	3-Neutral	3-Neutral	4-Agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
2-Disagree	1-Strongly disagree	1-Strongly disagree	2-Disagree	2-Disagree
2-Disagree	3-Neutral	4-Agree	2-Disagree	3-Neutral
3-Neutral	4-Agree	3-Neutral	3-Neutral	3-Neutral
1-Strongly disagree	4-Agree	2-Disagree	2-Disagree	4-Agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
4-Agree	4-Agree	4-Agree	2-Disagree	2-Disagree
2-Disagree	4-Agree	3-Neutral	4-Agree	4-Agree
3-Neutral	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	3-Neutral
4-Agree	1-Strongly disagree	1-Strongly disagree		2-Disagree
3-Neutral	2-Disagree	3-Neutral	4-Agree	4-Agree
2-Disagree	3-Neutral	1-Strongly disagree	5-Strongly agree	4-Agree
3-Neutral	2-Disagree	2-Disagree	4-Agree	3-Neutral
5-Strongly agree	2-Disagree	1-Strongly disagree	2-Disagree	4-Agree
4-Agree	4-Agree	4-Agree	3-Neutral	3-Neutral
2-Disagree	4-Agree	4-Agree	3-Neutral	3-Neutral
4-Agree	3-Neutral	3-Neutral	3-Neutral	3-Neutral
4-Agree	5-Strongly agree	3-Neutral	4-Agree	5-Strongly agree
1-Strongly disagree	5-Strongly agree	3-Neutral	3-Neutral	3-Neutral
2-Disagree	4-Agree	2-Disagree	5-Strongly agree	4-Agree
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
4-Agree	4-Agree	4-Agree	4-Agree	4-Agree
2-Disagree	3-Neutral	2-Disagree	4-Agree	4-Agree
1-Strongly disagree	3-Neutral	3-Neutral	5-Strongly agree	5-Strongly agree
4-Agree	2-Disagree	2-Disagree	4-Agree	2-Disagree
2-Disagree	2-Disagree	3-Neutral	3-Neutral	3-Neutral
	3-Neutral	4-Agree	4-Agree	
2-Disagree	4-Agree	5-Strongly agree	1-Strongly disagree	1-Strongly disagree
5-Strongly agree	5-Strongly agree	4-Agree	5-Strongly agree	5-Strongly agree
4-Agree	3-Neutral	4-Agree	3-Neutral	3-Neutral
3-Neutral	4-Agree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	4-Agree	5-Strongly agree	3-Neutral	3-Neutral

2-Disagree	4-Agree	4-Agree	3-Neutral	2-Disagree
2-Disagree	2-Disagree	1-Strongly disagree	4-Agree	4-Agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree	1-Strongly disagree
3-Neutral	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
4-Agree	4-Agree	5-Strongly agree	4-Agree	3-Neutral
2-Disagree	2-Disagree	2-Disagree	4-Agree	5-Strongly agree
2-Disagree	5-Strongly agree	2-Disagree	1-Strongly disagree	4-Agree
3-Neutral	2-Disagree	2-Disagree	3-Neutral	3-Neutral
2-Disagree	2-Disagree	2-Disagree	1-Strongly disagree	4-Agree
4-Agree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	5-Strongly agree
3-Neutral	5-Strongly agree	5-Strongly agree	3-Neutral	3-Neutral
3-Neutral	2-Disagree	1-Strongly disagree	3-Neutral	4-Agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	1-Strongly disagree	1-Strongly disagree
4-Agree	4-Agree	5-Strongly agree	5-Strongly agree	4-Agree
4-Agree	3-Neutral	4-Agree	4-Agree	5-Strongly agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree	1-Strongly disagree
4-Agree	3-Neutral	3-Neutral	3-Neutral	4-Agree
2-Disagree	2-Disagree	2-Disagree	4-Agree	4-Agree
2-Disagree	4-Agree	4-Agree	5-Strongly agree	5-Strongly agree
4-Agree	2-Disagree	2-Disagree	3-Neutral	3-Neutral
3-Neutral	5-Strongly agree	5-Strongly agree	2-Disagree	2-Disagree
2-Disagree	4-Agree	4-Agree	5-Strongly agree	3-Neutral
2-Disagree	4-Agree	4-Agree	2-Disagree	1-Strongly disagree
1-Strongly disagree	3-Neutral	3-Neutral	5-Strongly agree	3-Neutral
3-Neutral	4-Agree	4-Agree	4-Agree	4-Agree
2-Disagree	4-Agree	4-Agree	4-Agree	2-Disagree
4-Agree	3-Neutral	3-Neutral	3-Neutral	3-Neutral
4-Agree	2-Disagree	4-Agree	3-Neutral	3-Neutral
2-Disagree	3-Neutral	3-Neutral	4-Agree	4-Agree
4-Agree	4-Agree	3-Neutral	4-Agree	3-Neutral
2-Disagree	3-Neutral	3-Neutral	2-Disagree	2-Disagree
3-Neutral	3-Neutral	3-Neutral	5-Strongly agree	5-Strongly agree
1-Strongly disagree	4-Agree	4-Agree	3-Neutral	3-Neutral
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	1-Strongly disagree
3-Neutral	3-Neutral	3-Neutral	3-Neutral	3-Neutral
1-Strongly disagree	4-Agree	5-Strongly agree	3-Neutral	2-Disagree
2-Disagree	3-Neutral	3-Neutral	4-Agree	4-Agree
2-Disagree	4-Agree	4-Agree	5-Strongly agree	5-Strongly agree

				5-Strongly agree
5-Strongly agree	1-Strongly disagree	1-Strongly disagree	5-Strongly agree	
1-Strongly disagree	3-Neutral	3-Neutral	3-Neutral	3-Neutral
1-Strongly disagree	5-Strongly agree	5-Strongly agree	5-Strongly agree	3-Neutral
1-Strongly disagree	4-Agree	4-Agree	4-Agree	5-Strongly agree
5-Strongly agree	4-Agree	3-Neutral	5-Strongly agree	3-Neutral
5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree	5-Strongly agree
2-Disagree	5-Strongly agree	5-Strongly agree	2-Disagree	2-Disagree
3-Neutral	2-Disagree	2-Disagree	4-Agree	4-Agree
5-Strongly agree	4-Agree	4-Agree	3-Neutral	4-Agree
5-Strongly agree	2-Disagree	3-Neutral	4-Agree	4-Agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	3-Neutral	3-Neutral
4-Agree	3-Neutral	3-Neutral	4-Agree	4-Agree
4-Agree	2-Disagree	2-Disagree	4-Agree	4-Agree
1-Strongly disagree	3-Neutral	3-Neutral	1-Strongly disagree	1-Strongly disagree
2-Disagree	2-Disagree	1-Strongly disagree	4-Agree	4-Agree
3-Neutral	3-Neutral	3-Neutral	4-Agree	4-Agree
1-Strongly disagree	4-Agree	3-Neutral	2-Disagree	3-Neutral
1-Strongly disagree	4-Agree	4-Agree	4-Agree	4-Agree
1-Strongly disagree	5-Strongly agree	5-Strongly agree	3-Neutral	3-Neutral
1-Strongly disagree	3-Neutral	3-Neutral	1-Strongly disagree	1-Strongly disagree

ITF11	ITF12	O1	O2	Age
4-Agree	2-Disagree	4-Agree	yes	37
2-Disagree	4-Agree	2-Disagree	no	62
2-Disagree	4-Agree	4-Agree	yes	62
1-Strongly disagree	2-Disagree	1-Strongly disagree	no	55
3-Neutral	4-Agree	3-Neutral	yes	46
3-Neutral	3-Neutral	4-Agree	yes	40
2-Disagree	2-Disagree	3-Neutral	yes	32
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	34
2-Disagree	3-Neutral	2-Disagree	no	64
4-Agree	4-Agree	5-Strongly agree	yes	43
2-Disagree	2-Disagree	4-Agree	yes	35
2-Disagree	2-Disagree	2-Disagree	no	41
2-Disagree	2-Disagree	3-Neutral	no	23
2-Disagree	2-Disagree	2-Disagree	yes	37
3-Neutral	3-Neutral	2-Disagree	no	68
2-Disagree	4-Agree	2-Disagree	no	68
3-Neutral	3-Neutral	1-Strongly disagree	no	27
2-Disagree	2-Disagree	2-Disagree	no	34
4-Agree	3-Neutral	4-Agree	yes	28

5-Strongly agree	5-Strongly agree	2-Disagree	no	30
3-Neutral	3-Neutral	2-Disagree	no	21
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	32
3-Neutral	5-Strongly agree	4-Agree	yes	69
4-Agree	5-Strongly agree	4-Agree	yes	34
2-Disagree	3-Neutral	2-Disagree	yes	32
2-Disagree	3-Neutral	3-Neutral	no	24
3-Neutral	3-Neutral	3-Neutral	yes	23
4-Agree	4-Agree	1-Strongly disagree	no	73
3-Neutral	3-Neutral	2-Disagree	no	58
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	39
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	60
3-Neutral	3-Neutral	3-Neutral	yes	64
5-Strongly agree	3-Neutral	4-Agree	yes	30
1-Strongly disagree	1-Strongly disagree	4-Agree	yes	35
3-Neutral	3-Neutral	1-Strongly disagree	no	33
4-Agree	4-Agree	2-Disagree	no	53
4-Agree	3-Neutral	2-Disagree	yes	39
3-Neutral	5-Strongly agree	3-Neutral	yes	30
1-Strongly disagree	2-Disagree	1-Strongly disagree	no	62
3-Neutral	3-Neutral	3-Neutral	no	37
4-Agree	4-Agree	3-Neutral	no	33
1-Strongly disagree	5-Strongly agree	2-Disagree	no	35
2-Disagree	4-Agree	2-Disagree	no	32
5-Strongly agree	4-Agree	5-Strongly agree	yes	41
3-Neutral	3-Neutral	3-Neutral	no	27
2-Disagree	2-Disagree	1-Strongly disagree	no	29
2-Disagree	4-Agree	3-Neutral	yes	54
4-Agree	2-Disagree	4-Agree	yes	40
2-Disagree	2-Disagree	2-Disagree	no	33
1-Strongly disagree	3-Neutral	1-Strongly disagree	no	26
2-Disagree	4-Agree	3-Neutral	yes	33
4-Agree	5-Strongly agree	5-Strongly agree	yes	51
3-Neutral	3-Neutral	1-Strongly disagree	no	65
4-Agree	5-Strongly agree	4-Agree	yes	32
2-Disagree	2-Disagree	2-Disagree	no	47
1-Strongly disagree	3-Neutral	1-Strongly disagree	no	66
2-Disagree	4-Agree	3-Neutral	yes	50
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	58
2-Disagree	3-Neutral	3-Neutral	yes	32
4-Agree	4-Agree	4-Agree	yes	62
4-Agree	4-Agree	4-Agree	yes	58
1-Strongly disagree	4-Agree	1-Strongly disagree	no	50
4-Agree	5-Strongly agree	4-Agree	yes	31
2-Disagree	3-Neutral	2-Disagree	no	53

2-Disagree	4-Agree	3-Neutral	no	64
2-Disagree	4-Agree	2-Disagree	yes	71
2-Disagree	4-Agree	3-Neutral	no	50
2-Disagree	2-Disagree	2-Disagree	no	57
4-Agree	4-Agree	4-Agree	yes	61
4-Agree	4-Agree	3-Neutral	no	36
3-Neutral	4-Agree	2-Disagree	no	40
2-Disagree	2-Disagree	1-Strongly disagree	no	63
3-Neutral	3-Neutral	1-Strongly disagree	no	47
1-Strongly disagree	4-Agree	2-Disagree	no	70
2-Disagree	2-Disagree	3-Neutral	yes	40
3-Neutral	5-Strongly agree	4-Agree	yes	30
2-Disagree	2-Disagree	2-Disagree	no	32
4-Agree	4-Agree	4-Agree	yes	41
3-Neutral	3-Neutral	4-Agree	yes	31
5-Strongly agree	4-Agree	4-Agree	yes	41
1-Strongly disagree	2-Disagree	1-Strongly disagree	no	63
5-Strongly agree	5-Strongly agree	5-Strongly agree	yes	48
2-Disagree	4-Agree	3-Neutral	no	45
2-Disagree	4-Agree	3-Neutral	no	70
2-Disagree	1-Strongly disagree	1-Strongly disagree	no	32
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	65
2-Disagree	3-Neutral	2-Disagree	no	31
3-Neutral	4-Agree	4-Agree	yes	35
2-Disagree	4-Agree	2-Disagree	no	62
2-Disagree	2-Disagree	1-Strongly disagree	no	43
4-Agree	4-Agree	4-Agree	yes	35
4-Agree	4-Agree	2-Disagree	no	46
3-Neutral	3-Neutral	1-Strongly disagree	no	33
4-Agree	3-Neutral	4-Agree	yes	28
2-Disagree	4-Agree	2-Disagree	no	59
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	39
3-Neutral	3-Neutral	1-Strongly disagree	no	57
2-Disagree	3-Neutral	1-Strongly disagree	no	33
5-Strongly agree	5-Strongly agree	5-Strongly agree	yes	49
2-Disagree	5-Strongly agree	4-Agree	yes	37
5-Strongly agree	3-Neutral	4-Agree	yes	33
4-Agree	4-Agree	4-Agree	yes	36
3-Neutral	3-Neutral	3-Neutral	yes	66
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	27
1-Strongly disagree	3-Neutral	1-Strongly disagree	no	47
2-Disagree	3-Neutral	3-Neutral	yes	25
2-Disagree	2-Disagree	2-Disagree	no	63
3-Neutral	4-Agree	1-Strongly disagree	no	36
2-Disagree	2-Disagree	1-Strongly disagree	no	45

2-Disagree	2-Disagree	1-Strongly disagree	no	45
3-Neutral	3-Neutral	2-Disagree	no	35
1-Strongly disagree	2-Disagree	2-Disagree	no	52
2-Disagree	2-Disagree	1-Strongly disagree	no	31
3-Neutral	3-Neutral	1-Strongly disagree	no	57
4-Agree	4-Agree	1-Strongly disagree	no	67
2-Disagree	4-Agree	3-Neutral	yes	59
2-Disagree	3-Neutral	2-Disagree	no	31
2-Disagree	4-Agree	3-Neutral	yes	54
2-Disagree	3-Neutral	2-Disagree	no	35
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	yes	41
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	yes	33
4-Agree	4-Agree	4-Agree	yes	50
3-Neutral	4-Agree	3-Neutral	yes	27
1-Strongly disagree	3-Neutral	1-Strongly disagree	no	33
5-Strongly agree	5-Strongly agree	1-Strongly disagree	no	38
5-Strongly agree	5-Strongly agree	5-Strongly agree	yes	29
2-Disagree	2-Disagree	2-Disagree	no	31
3-Neutral	3-Neutral	2-Disagree	no	27
3-Neutral	3-Neutral	3-Neutral	no	33
4-Agree	3-Neutral	4-Agree	yes	39
3-Neutral	4-Agree	4-Agree	yes	52
3-Neutral	3-Neutral	2-Disagree	yes	25
4-Agree	4-Agree	4-Agree	yes	52
2-Disagree	2-Disagree	2-Disagree	yes	35
1-Strongly disagree	3-Neutral	3-Neutral	no	36
3-Neutral	3-Neutral	4-Agree	yes	34
2-Disagree	3-Neutral	2-Disagree	no	29
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	51
1-Strongly disagree	1-Strongly disagree	2-Disagree	no	30
3-Neutral	4-Agree	2-Disagree	no	52
3-Neutral	3-Neutral	5-Strongly agree	no	38
2-Disagree	2-Disagree	1-Strongly disagree	no	45
3-Neutral	4-Agree	3-Neutral	no	38
1-Strongly disagree	1-Strongly disagree	3-Neutral	yes	54
2-Disagree	3-Neutral	2-Disagree	no	43
4-Agree	4-Agree	4-Agree	yes	22
1-Strongly disagree	2-Disagree	2-Disagree	yes	36
2-Disagree	2-Disagree	2-Disagree	no	30
3-Neutral	3-Neutral	4-Agree	yes	37
3-Neutral	4-Agree	5-Strongly agree	yes	30
4-Agree	3-Neutral	3-Neutral	no	36
3-Neutral	5-Strongly agree	5-Strongly agree	yes	56
2-Disagree	4-Agree	3-Neutral	yes	49
4-Agree	5-Strongly agree	5-Strongly agree	no	41

3-Neutral	3-Neutral	2-Disagree	no	44
3-Neutral	3-Neutral	4-Agree	yes	42
1-Strongly disagree	1-Strongly disagree	2-Disagree	no	31
2-Disagree	3-Neutral	2-Disagree	no	27
3-Neutral	3-Neutral	3-Neutral	yes	35
1-Strongly disagree	4-Agree	1-Strongly disagree	no	68
3-Neutral	3-Neutral	1-Strongly disagree	no	27
3-Neutral	3-Neutral	3-Neutral	yes	30
4-Agree	4-Agree	4-Agree	yes	35
2-Disagree	2-Disagree	1-Strongly disagree	no	37
4-Agree	4-Agree	2-Disagree	no	51
3-Neutral	3-Neutral	1-Strongly disagree	no	51
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	32
4-Agree	3-Neutral	4-Agree	yes	42
2-Disagree	3-Neutral	3-Neutral	no	60
3-Neutral	3-Neutral	2-Disagree	no	49
5-Strongly agree	1-Strongly disagree	2-Disagree	yes	27
3-Neutral	3-Neutral	3-Neutral	no	24
2-Disagree	4-Agree	2-Disagree	yes	24
5-Strongly agree	5-Strongly agree	4-Agree	yes	60
3-Neutral	3-Neutral	1-Strongly disagree	no	47
2-Disagree	3-Neutral	3-Neutral	yes	32
1-Strongly disagree	3-Neutral	1-Strongly disagree	no	30
4-Agree	5-Strongly agree	4-Agree	yes	31
3-Neutral	4-Agree	4-Agree	yes	35
3-Neutral	3-Neutral	2-Disagree	no	44
3-Neutral	4-Agree	3-Neutral	yes	37
3-Neutral	5-Strongly agree	4-Agree	yes	35
1-Strongly disagree	4-Agree	2-Disagree	no	24
2-Disagree	4-Agree	2-Disagree	no	42
2-Disagree	2-Disagree	1-Strongly disagree	no	32
2-Disagree	4-Agree	2-Disagree	no	49
1-Strongly disagree	2-Disagree	1-Strongly disagree	no	71
4-Agree	4-Agree	2-Disagree	no	50
2-Disagree	3-Neutral	2-Disagree	no	50
2-Disagree	2-Disagree	2-Disagree	no	32
2-Disagree	2-Disagree	1-Strongly disagree	no	34
4-Agree	4-Agree	3-Neutral	yes	31
3-Neutral	3-Neutral	2-Disagree	no	41
3-Neutral	4-Agree	4-Agree	yes	31
3-Neutral	3-Neutral	2-Disagree	no	43
3-Neutral	3-Neutral	2-Disagree	yes	36
3-Neutral	3-Neutral	1-Strongly disagree	no	25
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	58
2-Disagree	2-Disagree	2-Disagree	no	22

1-Strongly disagree	3-Neutral	1-Strongly disagree	no	56
4-Agree	4-Agree	2-Disagree	yes	51
3-Neutral	3-Neutral	2-Disagree	yes	60
5-Strongly agree	5-Strongly agree	5-Strongly agree	yes	38
2-Disagree	3-Neutral	1-Strongly disagree	no	63
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	43
2-Disagree	2-Disagree	1-Strongly disagree	no	26
4-Agree	5-Strongly agree	4-Agree	yes	30
5-Strongly agree	5-Strongly agree	5-Strongly agree	no	45
2-Disagree	2-Disagree	1-Strongly disagree	no	26
4-Agree	4-Agree	4-Agree	yes	30
3-Neutral	4-Agree	4-Agree	yes	23
3-Neutral	3-Neutral	4-Agree	yes	29
2-Disagree	3-Neutral	1-Strongly disagree	no	36
3-Neutral	4-Agree	3-Neutral	yes	35
4-Agree	4-Agree	4-Agree	yes	67
3-Neutral	3-Neutral	1-Strongly disagree	no	27
4-Agree	4-Agree	4-Agree	yes	43
5-Strongly agree	5-Strongly agree	3-Neutral	yes	32
2-Disagree	3-Neutral	2-Disagree	no	29
2-Disagree	2-Disagree	1-Strongly disagree	no	58
2-Disagree	5-Strongly agree	2-Disagree	no	36
1-Strongly disagree	1-Strongly disagree	1-Strongly disagree	no	23

Gender	Travel Frequency	Education	Income
Male	1	Four-year college	$9,876- $40,125
Female	1	Graduate degree	$9,876- $40,125
Female	0	Graduate degree	$9,876- $40,125
Female	0	Four-year college	$85,526-$163,300
Male	12	Graduate degree	$40,126-$85,525
Male	0	Four-year college	$40,126-$85,525
Female	0	Four-year college	0-$9,876
Female	0	Graduate degree	$9,876- $40,125
Female	0	Two-year college	$9,876- $40,125
Female	1	Four-year college	$85,526-$163,300
Male	1	Graduate degree	$9,876- $40,125
Male	2	Four-year college	$85,526-$163,300
Female	2	Four-year college	$40,126-$85,525
Male	0	Four-year college	Over $207,350
Female	1	Four-year college	$9,876- $40,125
Female	0	Two-year college	$9,876- $40,125
Male	0	Four-year college	$163,301-$207,350

Male	0	High school	$9,876- $40,125
Male	4	Four-year college	$85,526-$163,300
Male	0	Four-year college	$40,126-$85,525
Female	0	Four-year college	0-$9,876
Male	0	Graduate degree	$9,876- $40,125
Male	1	Two-year college	$9,876- $40,125
Male	1	Four-year college	$85,526-$163,300
Male	0	Four-year college	$40,126-$85,525
Female	0	Four-year college	$9,876- $40,125
Female	3	Four-year college	$9,876- $40,125
Female	0	Graduate degree	$9,876- $40,125
Female	0	Four-year college	0-$9,876
Female	0	High school	$9,876- $40,125
Female	0	Four-year college	0-$9,876
	1	High school	$9,876- $40,125
Female	4	Graduate degree	$9,876- $40,125
Male	1	Four-year college	$9,876- $40,125
Male	0	Two-year college	0-$9,876
Male	2	Graduate degree	$9,876- $40,125
Male	0	Four-year college	$40,126-$85,525
Female	3	Four-year college	$40,126-$85,525
Female	0	Two-year college	0-$9,876
Female	0	High school	$40,126-$85,525
Female	0	Two-year college	$40,126-$85,525
Male	1	Graduate degree	$40,126-$85,525
Female	1	Four-year college	$40,126-$85,525
Female	2	Four-year college	$40,126-$85,525
Male	0	Four-year college	$40,126-$85,525
Male	0	High school	$40,126-$85,525
Male	4	Graduate degree	$9,876- $40,125
Male	6	Two-year college	$9,876- $40,125
Male	3	Four-year college	$40,126-$85,525
Female	0	Four-year college	$40,126-$85,525
Female	2	Four-year college	$40,126-$85,525
Male	2	Four-year college	$85,526-$163,300
Female	0	High school	$40,126-$85,525
Female	5	Four-year college	$85,526-$163,300
Female	1	High school	$9,876- $40,125
Male	0	Graduate degree	$40,126-$85,525
Male	1	Four-year college	$40,126-$85,525
Female	0	High school	$9,876- $40,125
Male	0	Four-year college	$40,126-$85,525
Female	0	Graduate degree	$9,876- $40,125
Male	1	Four-year college	$9,876- $40,125

Female	0	Two-year college	0-$9,876
Male	2	Four-year college	$40,126-$85,525
Female	0	Four-year college	$9,876- $40,125
Female	0	Two-year college	$9,876- $40,125
Female	0	Four-year college	$40,126-$85,525
Male	1	Four-year college	$85,526-$163,300
Male	0	Four-year college	0-$9,876
Male	3	Four-year college	$85,526-$163,300
Female	1	High school	$40,126-$85,525
Male	0	Four-year college	$85,526-$163,300
Female	0	Four-year college	$40,126-$85,525
Female	0	Four-year college	$40,126-$85,525
Female	0	High school	$40,126-$85,525
Female	0	High school	$40,126-$85,525
Female	3	Graduate degree	$9,876- $40,125
Male	1	Four-year college	$85,526-$163,300
Male	2	Graduate degree	$85,526-$163,300
Male	0	Graduate degree	$9,876- $40,125
Male		Four-year college	$9,876- $40,125
Female	0	Four-year college	$163,301-$207,350
Female	4	Graduate degree	$85,526-$163,300
Female	1	Two-year college	$40,126-$85,525
Male	0	Four-year college	$85,526-$163,300
Male	0	Four-year college	$85,526-$163,300
Male	0	High school	$9,876- $40,125
Male	0	Four-year college	$85,526-$163,300
Female	12	Four-year college	$40,126-$85,525
Female	0	High school	$9,876- $40,125
Female	0	High school	$9,876- $40,125
Male	1	Graduate degree	$40,126-$85,525
Female	4	Graduate degree	$40,126-$85,525
Female	0	Four-year college	$40,126-$85,525
Male	3	Four-year college	$85,526-$163,300
Male	1	Four-year college	$85,526-$163,300
Female	0	High school	$9,876- $40,125
Male	0	Graduate degree	0-$9,876
Female	0	High school	0-$9,876
Male	2	Two-year college	$40,126-$85,525
Male	2	High school	$9,876- $40,125
Male	2	Two-year college	$9,876- $40,125
Male	5	High school	$40,126-$85,525
Male	0	Graduate degree	$40,126-$85,525
Male	0	Four-year college	$85,526-$163,300
Female	0	Graduate degree	$40,126-$85,525

Female	1	Four-year college	$9,876- $40,125
Male	0	Two-year college	$9,876- $40,125
Female	0	Graduate degree	0-$9,876
Female	0	Graduate degree	$40,126-$85,525
Female	1	Graduate degree	$40,126-$85,525
Male	1	Four-year college	$85,526-$163,300
Female	0	Two-year college	$9,876- $40,125
Male	0	Four-year college	$163,301-$207,350
Male	0	Graduate degree	0-$9,876
Female	1	High school	$40,126-$85,525
Male	2	Graduate degree	$85,526-$163,300
Female	0	Two-year college	$40,126-$85,525
Male	4	Four-year college	$85,526-$163,300
Male	0	Two-year college	$9,876- $40,125
Female	0	Graduate degree	Over $207,350
Male	2	High school	$9,876- $40,125
Male	12	Graduate degree	Over $207,350
Female	0	Four-year college	$9,876- $40,125
Female	0	Two-year college	0-$9,876
Female	0	Four-year college	$40,126-$85,525
Male	2	Four-year college	$40,126-$85,525
Female	0	Two-year college	$9,876- $40,125
Female	0	Four-year college	
Male	0	Four-year college	$9,876- $40,125
Male	0	Four-year college	$40,126-$85,525
Female	5	Graduate degree	$85,526-$163,300
Female	1	Four-year college	$40,126-$85,525
Female	5	Graduate degree	$85,526-$163,300
Male	2	Graduate degree	$9,876- $40,125
Male	2	Graduate degree	$9,876- $40,125
Female	0	Four-year college	0-$9,876
Female	2	Four-year college	$40,126-$85,525
Male	0	Graduate degree	$163,301-$207,350
Male	1	Graduate degree	$40,126-$85,525
Female	0	Four-year college	$40,126-$85,525
Female	0	High school	$9,876- $40,125
Female		Two-year college	
Male	2	Four-year college	$40,126-$85,525
Female	0	Two-year college	$85,526-$163,300
Male	0	Four-year college	$40,126-$85,525
Male	8	Four-year college	Over $207,350
Male	2	Graduate degree	$163,301-$207,350
I do not wish to say	0	Two-year college	0-$9,876

Female	4	Four-year college	$40,126-$85,525
Female	3	Graduate degree	$9,876- $40,125
Male	1	Four-year college	$40,126-$85,525
Female	1	Graduate degree	$40,126-$85,525
Male	2	Four-year college	$85,526-$163,300
Male	2	Graduate degree	$85,526-$163,300
Male	0	Four-year college	$9,876- $40,125
Female	0	Graduate degree	$9,876- $40,125
Male	0	Four-year college	0-$9,876
Male	0	High school	$9,876- $40,125
Female	5	Graduate degree	$9,876- $40,125
Male	0	Four-year college	$40,126-$85,525
Male	0	Four-year college	Over $207,350
Female	2	Four-year college	$40,126-$85,525
Male	2	Graduate degree	$40,126-$85,525
Female	0	Four-year college	0-$9,876
Female	0	Trade School	$40,126-$85,525
Female	0	High school	$85,526-$163,300
Female	0	High school	$40,126-$85,525
Female	0	Graduate degree	Over $207,350
Female	2	Graduate degree	Over $207,350
Female	0	Graduate degree	$85,526-$163,300
Male	15	Four-year college	$40,126-$85,525
Female	0	Two-year college	$9,876- $40,125
Female	2	High school	$9,876- $40,125
Male	2	Graduate degree	$40,126-$85,525
Male	2	Four-year college	$40,126-$85,525
Female	0	Four-year college	$40,126-$85,525
Female	0	Four-year college	$40,126-$85,525
Male	3	Four-year college	$40,126-$85,525
Female	9	Four-year college	$85,526-$163,300
Male	2	Four-year college	$40,126-$85,525
Male	0	Graduate degree	$85,526-$163,300
Female	2	Graduate degree	$40,126-$85,525
Female	0	Four-year college	$85,526-$163,300
Female	0	Graduate degree	$85,526-$163,300
Male	0	Four-year college	$85,526-$163,300
Male	0	Graduate degree	$163,301-$207,350
Female	0	High school	$40,126-$85,525
Male	0	Graduate degree	$9,876- $40,125
Male	0	Four-year college	$85,526-$163,300
Female	0	Four-year college	$85,526-$163,300
Female	1	Four-year college	$40,126-$85,525
Male	4	Two-year college	$163,301-$207,350

Male	0	Four-year college	$9,876- $40,125
Male	0	Graduate degree	$9,876- $40,125
Male	1	Two-year college	0-$9,876
Female	0	Graduate degree	$9,876- $40,125
Male	0	Four-year college	$40,126-$85,525
Female	0	Four-year college	0-$9,876
Female	0	Two-year college	$9,876- $40,125
Female	0	Two-year college	$85,526-$163,300
Male	0	Graduate degree	$163,301-$207,350
Female	0	Four-year college	$40,126-$85,525
Male	2	Graduate degree	$40,126-$85,525
Female	0	Two-year college	$9,876- $40,125
Female	0	Graduate degree	$40,126-$85,525
Male	1	Four-year college	$85,526-$163,300
Male	5	Two-year college	$40,126-$85,525
Male	3	Graduate degree	$9,876- $40,125
Female	0	High school	0-$9,876
Female	0	Four-year college	$9,876- $40,125
Male	3	Graduate degree	$85,526-$163,300
Male	0	Four-year college	$40,126-$85,525
Female	0	High school	$9,876- $40,125
Female	12	Four-year college	$40,126-$85,525
Male	0	High school	$85,526-$163,300
Male	1	Four-year college	$40,126-$85,525
Male	0	Four-year college	0-$9,876
Male	0	High school	$9,876- $40,125
Male	0	Four-year college	$9,876- $40,125
I do not wish to say	0	Four-year college	$40,126-$85,525
Male	2	Four-year college	Over $207,350
Female	0	High school	$9,876- $40,125