

**A Factor Analysis of the Health, Safety, and Welfare in the Built Environment
Toward Interior Design as Perceived by Building Industry Professionals**

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Degree
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DEDICATION

This dissertation is dedicated to my husband, Frank Jacob Hellwig, III...thank you so very much
for your love and support, your prayers and positive words of wisdom,

and

to my students, past, present, and future...
may you change the world to be a better place for all people

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ABSTRACT

This research study created, piloted, and field tested a new instrument designed to collect perceptions toward an interior designer's impact on the health, safety, and welfare of the public. It also established an initial profile of perceptions within building industry professionals, identified the salient factors within those perceptions, and determined the level of these factors through a factor analysis. The *Health, Safety, & Welfare in the Built Environment* instrument was developed using a Table of Specifications based on the subject content that interior designers must be familiar with in regards to protecting the health, safety, and welfare of the public according to the Council for Interior Design Accreditation (CIDA) and the interior design Body of Knowledge (BoK). It was administered to members of the CSI Gulf States Region. Seventy-nine respondents, out of a possible 206, accounting for 38.3%, voluntarily and anonymously completed the survey. A *Factor Analysis* on the gathered data determined that there were four underlying thematic sub-groups or factors. They were labeled *Codes & Materials*, *Design Strategies*, *Mechanical*, and *Supervision*. Female respondents participating in the study self-reported higher overall perceptions toward the factors *Codes & Materials*, *Design Strategy* and *Mechanical* revealing that they put more value in the need for interior designers to have higher understanding and skills toward protecting the health, safety, and welfare of the public than males. Interior designers participating in the study scored higher than builders/contractors and engineers on their responses to the items in the *Design Strategy* factor revealing that interior designers place more value in understanding and demonstrating skills related to anthropometrics, color psychology, the impact of color, lighting and finishes on a person's vision, injury prevention and means of egress during fire than builders/contractors or

engineers perceive to be necessary. Architects participating in this study scored higher than interior designers on the factor *Supervision* revealing that architects perceive a higher need for interior designers to be supervised by an architect than interior designers perceive to be needed.

TABLE OF CONTENTS

CHAPTER I

OVERVIEW OF STUDY

Introduction to Chapter I	1
Can the decision to specify the wrong interior materials contribute to death?	3
Can the decision to specify the wrong interior materials, furnishings, and/or lighting contribute to accidents or injuries?	3
Can the decision to specify the wrong interior materials/finishes contribute to diseases and/or everyday illnesses?	4
Can the initial design layout of a house and its furnishings contribute to the potential inaccessibility of the home?	5
Statement of the Problem	6
Purpose of the Study	7
Significance of the Study	8
Research Objectives	9
Research Questions	9
Assumptions of the Study	10
Limitations of the Study	10
Delimitations of the Study	11
Operational Definitions	11
Summary of Chapter I	13

CHAPTER II

REVIEW OF LIERATURE

Introduction to Chapter II	14
Perceptions in the Formation of a Profession	14
Importance of Perceptions	14
Importance of Perceptions in the Formation of a Profession	17
Extrinsic Perceptions: Allied Professionals	18
Extrinsic Perceptions: The Public	19

Legislation	21
How Perceptions Can be Changed	22
Formation of Interior Design as a Profession	23
How Interior Design Fits the Definition of a Profession and Abbott's Model	26
The Three E's: Education, Experience, and Examination	26
Health, Safety, & Welfare of the Public	29
Legislation: Interior Design	29
Importance of Perception in the Formation of the Interior Design Profession	31
Extrinsic Perceptions of Allied Professionals: Architecture	31
Extrinsic Perceptions of Allied Professionals: Institute of Justice, National Kitchen & Bath Association, Interior Design Protection Council	33
Extrinsic Perceptions of the Public	35
Occupational Stereotyping	36
Influence	37
Efforts to Change Perceptions of Interior Design	39
Perceptions of Interior Design: Previous Studies	41
Perceptions of Title	41
Consumer Perceptions and Expectations	42
Perceived Social Standing	44
Public Opinions of Design Practices	45
Instrument Construction	47
Introduction	47
Development of the Table of Specifications	48
Develop Preliminary Item Pool	48
Question Order and Format	49
Conduct Pilot Study	50
Analyze Results of Pilot Study	50
Develop Final Instrument	51
Summary of Chapter II	51

CHAPTER III

METHODOLOGY

Introduction to Chapter III	52
Significance	52
Instrumentation	53
Development of the Table of Specifications	53
Development of the Item Pool for Preliminary Draft	58
Pilot of the Preliminary Draft	59
Pilot Study: Analysis of the Data	60
Development of the Final Draft	60
Sample	61
Administration of the Final Draft	62
Data Analyses	64
Summary of Chapter III	66

CHAPTER IV

ANALYSIS OF DATA

Introduction of Chapter IV	67
Final Survey Response Rate	67
Descriptive Demographics	70
Statistics	76
Final Instrument Internal Consistency Reliability	76
Health, Safety, & Welfare in the Built Environment Factor Mean Scores	82
Research Question #1	82
Research Question #2	84
Research Question #3	87
Research Question #4	93
Summary of Chapter IV	93

CHAPTER V

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction of Chapter V	97
Findings	98
Research Question #1	98
Research Question #2	98
Research Question #3	98
Research Question # 4	99
Conclusions	99
Recommendations	101
Summary of Chapter V	101

CHAPTER VI

THE STUDY IN RETROSPECT

Introduction of Chapter VI	103
Observations about the Study	103
Implications for Interior Designers	104
Implications for Interior Design Educators	105
Summary of Chapter VI	105

REFERENCES	107
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APPENDICES	121
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LIST OF TABLES

Table	Page
2.1 CIDA Professional Standards 2011	28
2.2 Interior Design Health, Safety & Welfare Table of Specifications	30
3.1 Findings Establishing Perceived Significance of this Research Study	54
3.2 Condensed Subject Content List of Health Safety and Welfare	57
3.3 Statistical Coding for Demographics	65
4.1 Year of Birth Demographics	72
4.2 Level of Education Demographics	74
4.3 Profession Demographics	75
4.4 States of Respondent's Practice Demographics	77
4.5 Item Factor Loads for Health, Safety, & Welfare in the Built Environment	81
4.6 Health, Safety, & Welfare in the Built Environment Descriptive Statistics	83
4.7 Year of Birth Frequencies	85
4.8 Year of Birth by Four Factors	86
4.9 Gender Frequencies	88
4.10 Gender by Four Factors	89
4.11 Profession Frequencies	90
4.12 Profession by Four Factors	91
4.13 State/s of Practice Frequencies	94
4.14 State/s of Profession by Four Factors	95

LIST OF FIGURES

Figure	Page
3.1 Process of Developing and Refining an Instrument for Measuring Perceptions Toward an Interior Designer's Impact on the Built Environment	55
4.1 Construction Specification Institute Gulf States Region	68
4.2 Survey Response Rate among Members of the CSI Gulf States Region ,,.....	69
4.3 Gender Demographics	73
4.3 Health, Safety, & Welfare in the Built Environment Scree Plot of Eigenvalues	79

Abbreviations

ADA	American's with Disabilities Act
ADHD	Attention Deficit Hyperactivity Disorder
AIA	American Institute of Architects
ANOVA	Analysis of Variance
ASID	American Society of Interior Designers
BoK	Body of Knowledge
CDC	Centers for Disease Control and Prevention
CIDA	Council for Interior Design Accreditation
CLCID	California Legislative Coalition for Interior Design
CSI	Construction Specification Institute
HSD	Honestly Significant Difference
HVAC	Heating, Ventilation, & Air Conditioning
IDEC	Interior Designers Educator's Council
IDFB	Interior Design Freedom Blog
IDFC	Interior Design Freedom Council
IDPC	Interior Design Protection Council
IIDA	International Interior Design Association
IJ	Institute of Justice
IRB	Institutional Review Board
MANOVA	Multivariate Analysis of Variance
NCARB	National Council of Architectural Registration Board
NCIDQ	National Council for Interior Design Qualification
NKBA	National Kitchen and Bath Association
OSHA	Occupation Safety & Health Administration
PTSD	Post-Traumatic Stress Disorder
RSI	Repetitive Strain Injury
SPSS	Statistical Package for the Social Sciences
UTC	University of Tennessee at Chattanooga
VOC	Volatile Organic Compounds

CHAPTER I

OVERVIEW OF STUDY

Introduction of Chapter I

The right environmental components are essential to support our good health and safety (Siegler & Epstein, 2003). When public health programs were originated over a century ago, the founding principles were based on the theory that changes in the environment could enhance or harm one's health, safety, and welfare (McKeown, 1976). Today, the general public understands that being healthy in one's environment has a direct impact on quality of life. This implication charges society to be continually mindful of its responsibility to provide a sense of well-being to the public through its built environments. This certainty demands, not only the absence of harmful materials, but it must also include positive qualities to enhance well-being (Banister, Allen, Fadel, Bhakthan, & Howard, 1988). To this end, the profession of interior design plays an integral, defined role within the team of building professionals charged with the challenge to protect the health, safety, and welfare of the public through the built environment.

As public health movements have evolved, so has the government's attempt to guarantee the public's safety in the built environment. Legislative registrations of professions that impact the health, safety, and welfare of the public have been extremely effective in protecting the public. There are two forms of legal state registration: a title act and a practice act. A *Title Act* protects those who meet a minimum competency to use a professional title, but it does not restrict practice of the occupation. A *Practice Act*, not only protects a professional title, but requires the professional to be licensed by a state board before practicing functions that have an

impact on the health, safety, and welfare of the public (Allen, Jones, & Stimpson, 2004; Giattina, 2000; Jones & Allen, 2009).

Over the last century, the practice of interior design developed into a complex and specialized discipline that utilizes a systematic process focusing on humans, their behaviors, and how their physical, social and psychological needs are met by the interior environment (Guerin & Martin, 2004). Binggeli (2007) gives a condensed definition of an interior designer as someone who is “qualified by education, experience, and examination to enhance the function and quality of interior spaces for the purpose of improving quality of life, increasing productivity, and protecting the health, safety, and welfare of the public” (p. 5) (see also Jensen, 2001).

Most states allow anyone to practice the profession of interior design and advertise themselves as an *interior designer* without any qualifications (White & Rabun, 2008; Whitfield & Smith, 2003). This creates a blurred line between the role of an interior decorator, as someone with a talent for enhancing the aesthetics of a room (Guerin & Martin, 2004), and an interior designer, who focuses on the physiological and psychological well-being of the user; in other words, the user’s health, safety, and welfare. The public’s perceptions of the interior designer as an interior decorator have hampered pursuits for state legislation to require minimum competencies to perform interior design functions. Consequently, this lack of professional recognition by the public, and even within the building industry, has the potential to compromise the health, safety and welfare of the public.

Despite these facts, the lack of urgency within the building industry, as well as within society, to require minimum competencies to practice interior design, reflects the notion that

interior design does not impact the health, safety and welfare of the public. Therefore, the following questions are used as a framework to determine if interior design should be a licensed profession:

1. **Can the decision to specify the wrong interior materials contribute to death?** In 1980, the MGM Grand Hotel and Casino in Las Vegas, NV caught on fire killing 85 and injuring more than 700 people. The cause of the fire was an electrical ground fault inside a wall soffit, that spread to the lobby, fed by wallpaper, glue, and plastic mirrors, at a rate of 15 to 19 feet per second. Almost all the deaths were attributed to the toxic fumes and smoke created from the burning building materials, interior finishes, and furnishings (1980 MGM Grand Hotel fire – 30 years later, 2010; Clark County Fire Department, 1980).
2. **Can the decision to specify the wrong interior materials, furnishings, and/or lighting contribute to accidents or injuries?** Annually, in the United States over one million Americans suffer an injury resulting from a fall according to the Centers for Disease Control and Prevention (CDC). The center estimates that 20% - 30% of these falls result in moderate to severe injuries such as hip fractures or head injuries and over 19% results in death. The primary causes for falling is slippery flooring materials and stair treads, in addition to poor interior lighting (Slip and Fall Accident Stats, 2012).

Research also shows that many workers are injured working at their computer. These injuries include, but are not limited to, eye strain, Repetitive Strain Injury (RSI), and Carpal Tunnel Syndrome. Causes of these injuries include poor lighting, non-ergonomic furniture, and poor placement of computer equipment (Bailin, 2010).

3. **Can the decision to specify the wrong interior materials/finishes contribute to diseases and/or everyday illnesses?** Off-gassing from interior building materials and finishes is a major contributor of poor indoor air quality. In addition, some indoor pollutants can magnify the effects of other indoor pollutants. Some carpets and synthetic fabrics can release formaldehyde into the air causing hypersensitive or allergic reactions, skin rashes, and eye, respiratory and mucous membrane irritation, as well as dermatitis in some people. Many paints release Volatile Organic Compounds (VOC's) resulting in nausea, dizziness, headaches, fatigue and eye, respiratory tract, and mucous membrane irritation in some people. Some indoor building materials release radon which research shows may lead to lung cancer (Occupation Safety & Health Administration (OSHA), 2012). Additional side-effects can include Legionnaires' disease, asthma, hypersensitivity pneumonitis, and humidifier fever. Based on cancer risk alone, indoor air pollution is ranked as one of the most important environmental problems in the United States.

4. **Can the initial design layout of a house and its furnishings contribute to the potential inaccessibility of the home?** People experience limits in

dexterity, sight, hearing, and their senses as they age. Often, elderly persons are uprooted from their homes because the natural effects of aging make it too hard to maneuver the space (Null & Cherry, 1998; Null, 2003).

Examples of inaccessible designs that force a person to leave his or her home include steps at the building's entry, narrow doorways and halls, no bedroom with bath on the first level, steps or stairs anywhere in the interior, small bathrooms, inaccessible showers, and out of reach storage and appliances. In addition, as the normal human eye changes with age, a person's perception of color, texture and depth perception also changes (Faye & Stuen, 1992; Moody & McClain, 2005; Moody & Petty, 2007).

Research shows that lack of contrasting materials, use of small patterns, dim lighting and increased glare contribute to injuries inside the home (Moody & McClain, 2005; Moody & Petty, 2007). Retrofitting the home is often impossible by design or too costly for the homeowner (Peterson, 1996).

Based on this context, decisions made by interior designers do impact the health, safety, and welfare of the public, hence interior design should be a licensed profession. Through the three E's, (education, experience, and examination) interior designers are trained to make decisions during the design process that prevent harm to users of the space. This includes specifying finishes that prevent injuries, eye strain, or pollute indoor air quality, as well as products that are ergonomically sound, and space plans that comply with codes allowing people more time and

safe routes to escape during a fire (Martin, 2008). In addition, professional interior designers are trained to focus on the psychological and physiological needs of the client's welfare, designing interiors that raise the quality of life of people of all ages and abilities. Anderson, Honey & Dudek in their article *Interior designer's social compact: Key to the quest for professional status* (2007), argue that these qualities set interior designers apart from architects, interior decorators, and other building design professionals.

Statement of the Problem

Within the building industry, there are several organizations opposed to legalizing state registration of interior design professionals. Those associated with architectural professional organizations argue that regulation of the interior environment, beyond that of the role of the architect, is not necessary because the activities of interior designers do not substantially impact the health, safety, and welfare of the public (National Council of Architectural Registration Board (NCARB), 2000; Wesolowski, 2008). Giattina (2000) argues that interior designers are trying to practice architecture without going through the same rigorous requirements of an architect (see also Friedrichs, 2002; Guillot, 2005; Steffian, 2000).

Additionally, other allied design professional organizations such as the National Kitchen and Bath Association (NKBA) do not want to raise competency levels to match that of the interior design qualifying exam, National Council for Interior Design Qualification (NCIDQ). Members of these allied design professional organizations believe interior design legislation will prevent or limit the ability of their membership from earning a living (NKBA, 2008b). In addition, attacks by The Institute of Justice (IJ) and the Interior Design Protection Council (IDPC) on behalf of the NKBA (White & Rabun, 2008) argue that regulation of the profession of

interior design is anti-competitive and unnecessary (Ewing, 2008). Interior design professionals make note that these arguments fail to make a distinction between a person who meets the definition of a professional interior designer (education, experience and examination) and a person who just calls himself/herself an interior designer (Martin, 2008). This misuse of the term *interior designer* confuses the public. Media images of interior designers make no distinction between someone with professional qualifications and someone armed only with good taste. This is compounded by the fact that in most states anyone can call himself/herself an *interior designer* and practice interior design functions that impact the public's health, safety, and welfare.

It is for these reasons that strategies must be created and implemented to educate people about interior designers' contributions to protect the health, safety, and welfare of the public. To form these strategies, an understanding of extrinsic perceptions is needed, (Marshall-Baker, 2001) along with a factorial analysis to reveal the underlying salient thematic subgroups or *factors* underlying perceptions toward an interior designer's need to understand health, safety, and welfare specifications. A review of the literature revealed no currently available instruments or existing surveys that focus on extrinsic perceptions of the impact of *interior design* on the health, safety, and welfare of the public. There is a need to develop a reliable and valid instrument to measure the perceived role of interior designers in their facilitation of the public's health, safety, and welfare.

Purpose of the Study

The primary purpose of this research study was to develop a valid, reliable, and objective survey instrument to assess perceptions of those who impact legislation regarding an interior

designer's ability to protect the health, safety, and welfare of the public. This includes, but is not limited to, architects, engineers, builders/contractors, interior designers, as well as that of the general public. The secondary purpose of this study was to establish an initial profile of perceptions within building industry professionals toward an interior designer's ability to impact the health, safety, and welfare of the built environment, identification of the salient factors within those perceptions, and determination of the level of these factors through a factor analysis. The study also ascertained if there are differences in factors as determined by the participants' demographic backgrounds.

Significance of Study

Interior design should be a licensed profession (Martin, 2008). Decisions made by interior designers do impact the health, safety, and welfare of the public (Dickinson, Anthony & Marsden, 2009, Guerin & Thompon, 2004, Thompson, 2007). Every day that goes by, which allows the unlicensed practice of interior design, the higher potential of risk to the public that they become exposed to materials and finishes that may have a negative impact on their health and safety. An educational movement is needed to promote the essential legislative actions required to protect the practice of interior design from those who are unqualified. To these ends, there must first be an understanding about extrinsic perceptions toward the interior designer so that educational strategies and resources may be directed where they are needed most (Marshall-Baker, 2001). This study is significant because it creates a table of health, safety, and welfare specifications and the instrument needed to make educational strategies possible. In addition, preliminary data has been gathered and analyzed from a regional sample of building industry professionals who work across 26 states, establishing salient factors and demographic

relationships for an initial profile of perceptions toward an interior designer's ability to protect the health, safety, and welfare of the public within the building industry.

Research Objectives

This research was conducted with the following research objectives in mind:

1. To establish a table of health, safety, and welfare specifications as it relates to the built environment.
2. To develop an instrument that reliably measures perceptions toward an interior designer's ability to impact the health, safety, and welfare of the public.
3. To collect reliable data that reports perceptions within the building industry toward an interior designer's ability to impact the health, safety, and welfare of the public.
4. To derive salient factors underlying the health, safety, and welfare specifications and determine if there are significant differences toward these factors among demographically grouped participants.

Research Questions

The following research questions were developed to address the purpose of the study:

- RQ1 Is there a significant difference in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the public in the built environment based on the respondent's year of birth/generation and the salient factors?
- RQ2 Is there a significant difference in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the

public in the built environment based on the respondent's gender and the salient factors?

RQ3 Is there a significant difference in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the public in the built environment based on the respondent's profession within the building industry and the salient factors?

RQ4 Is there a significant difference in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the public in the built environment based on the legal registration status of interior designers within the respondent's state/s of practice and the salient factors?

Assumptions of the Study

The following assumptions were made regarding this study:

1. Qualified jurors rated each subject content area of the instrument objectively.
2. The jurors and participants' responses were honest and accurate.
3. The sample selected to pilot the instrument followed the specific directions concerning test administration.
4. Subjects that completed the survey did so of their own free will.

Limitations of the Study

The following limitations applied to this study:

1. Data collection was limited due to a lack of access to a complete population.
2. Data collection was limited to properly functioning electronic mail to transmit and receive electronic mail from the researcher to the participants and vice versa.

3. Data collection was limited to proper functioning link to Google Docs® to access the instrument.
4. Data collection was limited to willingness and ability of subjects to respond in a timely fashion.
5. Data collection was limited to willingness and ability of subjects to respond accurately and truthful.

Delimitations of the Study

The following delimitations were imposed based on the purpose of the study:

1. The table of specifications was delimited to the subject content regarding the protection of the health, safety, and welfare of the public according to the interior design Body of Knowledge (BoK) and Council for Interior Design Accreditation (CIDA) Standards.
2. The jury panel of experts was delimited to interior design educators who are leaders within the Interior Designers Educator's Council (IDEC).
3. The pilot study was delimited to a convenience sample of faculty, staff and students at the University of Tennessee at Chattanooga (UTC).
4. Final data collection was delimited to members of the building industry who are members of the Gulf Coast Region of Construction Specification Institute (CSI).
5. Generalization of the results is delimited to the sample.

Operational Definitions

Specific terms operationally defined for purposes of this study are as follows:

1. Built Environment - an architectural structure.

2. Factor - underlying thematic sub-group within a large number of dependent variable (Gay & Airasian, 2003).
3. Factor Analysis - to take a large number of dependent variables and to group them into a manageable number of sub-groups called factors to make the data easier to interpret and to analyze (Gay & Airasian, 2003).
4. Health and Safety - design solutions that conform to codes, regulation, and product performance standards to protect the public (Guerin & Marin, 2004).
5. Instrument - tool used to measure perceptions.
6. Interior Design - enhanced function of interior spaces to improve the quality of life and increase productivity of the occupants and support health, safety and welfare (Binggeli, 2007).
7. Interior Designer - a professional qualified by education, experience, and examination to perform the functions of interior design (Binggeli, 2007).
8. Panel of Jurors – a small group of professionals with content expertise that provide the framework of knowledge and practice towards the development of a valid, reliable and objective instrument.
9. Perceptions - what a person believes to be true.
10. Practice Act - legislation requiring professionals such as interior designers to be licensed by a state board before performing occupational functions that have an impact on the health, safety, and welfare of the occupants (Allen et al., 2004).
11. Table of Specifications - the guidelines used to determine the subject content when constructing the preliminary draft of the instrument.

12. Test Objectivity - the elimination of human bias.
13. Test Reliability - the degree to which an instrument consistently measures perceptions.
14. Test Validity - the degree to which the instrument measures perceptions.
15. Title Act - state legislation that protects a professional title such as *Interior Designer*, *Registered Interior Designer* or *Certified Interior Designer* (Allen et al., 2004).
16. Welfare - design solutions that promote the social, psychological and physical well-being of individuals, the community, and the environment (Guerin & Marin, 2004).

Summary of Chapter I

Chapter I introduced the reader to the need for an instrument to measure perceptions toward the preparedness of interior designers to protect health, safety, and welfare of the public. Background was given to expand the readers understanding of the profession of interior design and the role that interior design plays in protecting the health, safety, and welfare of the public. The parameters of the study were outlined through the basic assumptions, delimitations, and limitations. Operational definitions were presented. Chapter II will review literature which establishes the groundwork necessary to gather data on perceptions towards an interior designer's ability to protect the health, safety, and welfare of the public, surveys previous studies that focus on perceptions of interior design and reviews instrument construction.

CHAPTER II

REVIEW OF LIERATURE

Introduction of Chapter II

The literature review is divided into three distinct sections. The first section defines *perceptions* and identifies the importance of perceptions in the formation of a *profession* with emphasis toward the occupational standing of interior design. Insight is gained on interior designers' challenge to prove the impact of interior design on increasing the public's quality of life. This section of the review establishes the groundwork necessary to gather data on perceptions towards an interior designer's ability to protect the health, safety, and welfare of the public.

The second section of this literature review summarizes previous studies directed toward perceptions of interior design. Throughout the study no existing instrument was found that was designed to collect perceptions of interior designers' impact on the health, safety and welfare of the public; therefore it was determined that one needed to be created.

The final section of the literature review focused on the instrument creation. Evaluation of instruments was reviewed to determine the processes needed to create a questionnaire that is valid, reliable and objective. In addition, a variety of evaluation instruments were reviewed for content, item structure and formatting.

Perceptions in the Formation of a Profession

Importance of Perceptions

Glynn, Herbst, O'Keefe, Shapiro, & Lindeman. (2004) stated "it is not reality that matters but rather the perception of that reality" (p. 211). To understand the need to gather data on

perceptions toward an interior designer's ability to protect the health, safety, and welfare of the public, a basic understanding is first needed of the term *perception* and why *perceptions* are considered important. A review of literature reveals hundreds of definitions, often making it difficult to narrow down a specific meaning (Albarracin, Johnson, Zanna, & Kumkale, 2005). When researching dictionary definitions of the term *perception*, two broad meanings emerged. These are easily differentiated by the Oxford University Press as: (1) "the ability to see, hear, or become aware of something through the senses" and (2) "the way something is regarded, understood or interpreted" (p.1) (Perception, 2011b). The latter definition represents the meaning used in this study. The Cambridge Dictionary (2011) further defines this meaning of the term *perception* as "a belief or opinion, often held by many people and based on how things seem" (p. 1) (Perception, 2011a).

A thesaurus search revealed a list of common synonyms to further explore the meaning and importance of perceptions and identify the range of study around this topic. The results culminated into a list of new terms that were then sorted by meaning according to the above mentioned two definitions of the term *perception*. Based on the results, terms that matched the second definition meaning were identified. The most reoccurring terms from this list were considered relevant to this study and were used as additional key words to explore in the quest to understand the importance of perceptions to research. The most reoccurring synonyms for the term *perception* with relevance to this study were *attitude*, *belief*, and *opinion*.

Investigators often rely on related constructs when conducting thorough research. The meanings of *attitude*, *belief*, and *opinion* overlap with that of *perception*; therefore all were reviewed (Tuan, 1990). Definitions of these terms are continually debated by scholars (Glynn et

al., 2004). *Attitudes* are a way of thinking about someone or something (Attitude, 2012). *Beliefs* are an acceptance that something is true (Belief, 2012). *Opinions* are judgments formed about something, not necessarily based on facts (Opinion, 2012). Each of these individual terms is central to the forces that form and transform existing perceptions. Similarly, perceptions have a reciprocal impact on attitudes, beliefs, and opinions (Tuan, 1990).

Researchers often prefer to overlook human subjectivity such as perceptions, attitudes, beliefs, and opinions because the task of establishing linkages is complex. However, these human factors should not be excluded from the theoretical approach to research because they need to be known to fully understand the research topic (Tuan, 1990).

In addition, research shows that understanding perceptions, attitudes, beliefs, and opinions is needed due to the potential power they hold when communicated to others. As a person communicates their belief/s, they influence and alter the perceptions of others, further solidifying the belief into public opinion. Communication of one's perceptions has a different level of influence on each person who hears it, based on the audience's background and experiences (Martin, 1999).

People are not blank slates when they are exposed to new information. They hold pre-existing beliefs that have a profound effect on how they perceive the world, what they believe is creditable information, and how they will interpret the new information (Shapiro & Jacobs, 2011). These existing attitudes form a frame of reference and a basis of comparison for new ideas (Glynn et al., 2004). Research shows that people's perceptions are often a product of their heredity and environment; therefore it makes sense that demographics such as age, gender, education level and work experience would have a direct correlation to their attitudes (Glynn et

al., 2004; Martin, 1999; Shapiro & Jacobs, 2011). Connecting demographic information to a perception allows the researcher to further understand the influences that produce specific opinions (Cox, 2008; Martin, 1999) and gives a clearer understanding of how to implement policies and programs to bring about perceptual change (Namboodiri, 1991). Without this understanding, enduring solutions may not be found (Tuan, 1990).

Importance of Perceptions in the Formation of a Profession.

To better understand the importance of gathering perceptions toward an interior designer's ability to protect the health, safety, and welfare of the public, knowledge is first needed of the important role that perceptions play in the formation of a profession. Two perceptual groups will be reviewed due to the high level of impact that they have on the formation of a profession.

The Cambridge University Press defines a *profession* as “any type of work which needs special training or a particular skill, often one which is respected because it involves a high level of education” (Perception, 2011). Through his theory of professionalism, Abbott (1988) further defines and examines the sequence of developmental actions taken by an occupation to attain professional status. These are outlined by Martin, Guerin & Ginthner (2000) as (1) the creation of a professional organization, (2) a change in the profession's name, (3) the establishment of a code of conduct, (4) the creation of educational standards, (5) establishment of a certification examination requirement, and (6) engagement in legislative actions (also see Martin, 2008; White & Rabun, 2008). The core of this step process is often referred to as *the three E's*: education, experience, and examination (Harwood, 2006; Martin, 2008; Martin & Guerin, 2006).

Abbott's sequence of developmental action (1988) alone does not fully meet the definition of *profession* according to the Cambridge University Press because it does not take into account the level of *respect* given to the occupation (Profession, 2011). Research shows that others must perceive value in the services provided by an occupation for it to fully become a profession (Burns, 1997; Marshall-Baker, 2004). Physicians and engineers, for example, are valued by the general public and by members of their allied professions for the services they provide. Competency levels, such as educational standards or certification credentials, are expected, but are not valued without the perception of quality, valued service (Marshall-Baker, 2004). The literature review revealed that a service is perceived to be valued when it impacts the general good of society and fulfills needs that relate specifically to the health, safety and welfare of the public (Burns, 1997; Marshall-Baker, 2004). It is for these reasons that this literature review takes a closer look at the stakeholders whose perceptions have the biggest impact on the formation of a profession: allied professionals and the public.

Extrinsic perceptions: Allied professionals. Professions form an interdependent system; therefore a move by one affects others. With this in mind, there are two categories of allied professionals whose perceptions impact the formation of an occupation to a profession. First, there are the members of the profession/s which perceive that they are under attack by the occupation who is trying to establish jurisdiction over certain tasks. As an occupation attempts to lay claim to a jurisdiction they can only occupy it if it is vacant or by fighting for it. The occupation may argue that the jurisdiction is vacant, but if members of an allied profession perceive that their jurisdictional boundary is threatened, they will fight to keep the occupation from being legally recognized as a profession (Abbott, 1988).

Second, there are the practitioners who argue that the formation of minimum competencies to perform certain tasks is creating a monopoly (Abbott, 1988; Freidson, 2001) and that occupational regulations are anticompetitive. These critics argue that occupational regulations are often used to cut out the competition and only benefit those who fulfill the qualification outlined by the profession (Carpenter, 2007). They argue that those within professions fail to ensure benefit to the consumer, while primarily advancing their own selfish economic interest (Freidson, 2001). Often, members of these allied occupations work to influence legislators against the establishment of minimum competencies through the legal registration of a profession (Abbott, 1988).

Extrinsic perceptions: The public. In the USA, public opinion establishes the power of a profession and enables it to achieve legal protection. When an occupation makes a jurisdictional claim before the public, it is asking for control over a particular kind of work, the right to perform the work as those in the profession see fit, and the right to exclude others that don't meet a prescribed competency level (Abbott, 1988, Freidson, 2001). It is for these reasons that understanding the public's perception of an occupation, how it is formed, and how it can be changed is important to this study.

The public has a tendency to view those in a profession as homogeneous. For example, all physicians are viewed as equivalent with little perceptual variation by skill, by specialty, or by training. Another assumption made by the public is that tasks traditionally performed by one profession might be transferred to another profession based on a new definition and thus a new approach to the problem or task. For example, historically, it has been assumed that a child with behavioral problems had a disease; therefore the task fell under the jurisdiction of a physician.

However, a new definition of the problem might open the door for the task to fall under the jurisdiction of a psychologist (Abbott, 1988).

When trying to understand how the public's opinion is formed, the influence of mass media must be taken into consideration (Martin, 1999). Mass media, not only portrays public perceptions, but often dictates what those perceptions will be (Glynn et al., 2004). Since the middle of the 20th century, the primary influence over the public's perception of a profession's image is the television, through reality programs, fictional programs and talk shows. Many of these images are inaccurate or only show a sensational side of how a profession works. Magazines and newspapers also play a crucial role in a profession's image formation (Abbott, 1988) but research shows that they, too, use professional titles interchangeably (Carpenter, 2008b; Martin, 1999; Waxman & Clemons, 2007; White, 2009) and focus on glamorous views of the profession (Baltimore, 2005; Carpenter, 2008b; White, 2009).

These images have an impact because the public tends to remember a profession in the image it was first seen (Abbott, 1988) creating occupational stereotyping. The *Journal of Psychology* published an article by Lipton, O'Connor, Terry, and Bellamy (1991) that defines *occupational stereotyping* as "a preconceived attitude about a particular occupation, about people who are employed in that occupation and about one's own suitability for that occupation" (p. 129) (see also White, 2009). Occupational stereotypes created through fictional writings, television, movies and magazines have a direct influence on the perceived value of a profession (Glynn et al., 2004; Thielbar & Feldmen, 1969, Whitfield & Smith, 2003, White & Rabun, 2008; White, 2009).

One form of occupational stereotyping influencing the public's opinion of an occupation is known as sex-typing. Certain occupations are considered *male jobs* while others are considered *female jobs*. Stereotypical masculine traits are more highly valued than stereotypical female traits. This type of occupational stereotyping directly impacts the public's perception of the occupation's prestige or status. These findings, not only influence the career choices of men and women, but impact the perceived value of an occupation as it strives to become a profession. In addition, research reveals that women tend to place more prestige in feminine occupations than men do (Oswald, 2003), an important fact when noting that most legislators are male (State legislatures internet links, 2012).

Legislation. Professions are dependent on state legislation to gain control over their own work and thus be considered autonomous within their labor market (Freidson, 2001). This type of legislation is usually in the form of a *title act* or a *practice act*. A *title act* distinguishes who may use a certain professional title (Allen et al.; Giattina, 2000, Jones & Allen, 2009). This enables the public to be confident that the user is qualified through minimum education, experience, and examination competencies, (Jones & Allen, 2009). However, a title act does not prohibit others from practicing within the occupation (Whitemyer, 2006). A *practice act* requires those who wish to practice a profession to meet minimum education, experience, and examination competencies and to be licensed by a state board (Allen et al., 2004; Giattina, 2000, Jones & Allen, 2009). Occupations wishing to be recognized as a profession seek to set themselves apart through practice act legislation. This, in turn, keeps practitioners that do not meet the prescribed minimum competencies from performing tasks that might endanger the health, safety, or welfare of the public (Kilmer & Kilmer, 1992). When new practice act

legislation is introduced, perceptions of allied professionals, as well as the public, often become heightened to the point that they work to support or fight the proposed legislation by communicating their concerns to the state legislators (Abbott, 1988). Research shows that occupations that have failed to achieve full professional status have not convinced the public, allied professionals, or legislators of its value (White & Rabun, 2008; White, 2009); thus the challenge of an occupation seeking professional status is to convince everyone involved that legislation is needed to protect the health, safety, and welfare of the public and is not meant to be anticompetitive (Abbott, 1988).

How perceptions can be changed

Formed perceptions of a profession do not change quickly, and may take decades to evolve (Abbott, 1988; Shapiro & Jacobs, 2011). Strategy is needed to be successful. Research identifies six forms of influence that are used to successfully change perceptions: (1) *Priming and framing*: when communicating to someone about an occupation, one should use stories that are easy to understand and that the person can relate to, (2) *Online information processing*: one should be sure that the information can be quickly and easily verified online, (3) *Perceptions of risk*: one should always stress the potential risk versus what there is to gain by legally regulating the occupation, (4) *The effects of emotions*: one should avoid giving out dry facts...instead one should connect the information to the person's emotions, (5) *The impact of elite mobilization efforts*: it is important for one to educate legislators running for election because they often draw on existing beliefs about pending policies to mobilize voters, thus impacting public opinion, and (6) *Inadvertent media effects*: the media is an extremely effective tool in shaping what people

know and how they feel about the world around them; therefore, it must be used to shape new perceptions (Moy & Hussain, 2011; Shapiro & Jacobs, 2011).

Formation of Interior Design as a Profession

It is difficult to put a date on the birth of the profession of interior design (Coleman, 2002; Kilmer & Kilmer, 1992). People have embellished interiors and made them comfortable throughout history (Slotkis, 2006). The profession may be said to have two ancestors: architecture and decorative arts. In past centuries, architects made decisions about building interiors and often worked with decorative arts specialist, such as cabinetmakers and weavers to produce the decorative arts (Nielson & Taylor, 2002). The turn of the 20th-century realized the birth of *interior decorators*. Massey (2008), author of numerous books about the history of interior design, notes that interior decoration was one of the few professions led by women, particularly highly affluent women who catered primarily to the rich and famous (see also Turpin, 2007; White, 2009) and acted as arbiters of taste within high society. They were considered “in the know” and their personal taste was highly sought (Slotkis, 2006) as they focused on the embellishment of surfaces and the placement of furniture and accessories within a space (Jones & Allen, 2009). The use of the term *interior designer* did not occur until after World War II (Kilmer & Kilmer, 1992). The transition from *interior decorators* to residential *interior designers* was rooted in the post-World War II housing market. Doors opened for interior decorators to expand services from that of enhancing the aesthetics of a room to more complex and specialized skills involving client needs (Whitney, 2009). Some historians believe that the beginning of the interior design profession can be traced back to 1965 when the first interior design firm, Gensler, opened in San Francisco, with a focus on designing functional

corporate interiors. In doing so, interior design became separated from architecture and interior decoration (Friedrichs, 2002).

Many changes occurred within Interior design since the 1960's and, in the process, the profession grew rapidly. Today, interior designers approach interior spaces for the purposes of improving quality of life, increasing productivity, and protecting the health, safety, and welfare of the public (Binggeli, 2007; Jensen, 2001). Interior designers must focus beyond aesthetics to design solutions that revolve around function (Nieminen, 2010). The interior designer must be able to see the small details while maintaining the vision of the overall project, whether it is a 500 square foot space or a 30,000 square foot environment (Thomas, 2011). With these changes, they seek to distinguish themselves from less qualified interior decorators, to protect their right to practice, and to establish gender equality in a building industry dominated by men (Ivy, 2000; Friedrichs, 2002).

The term *interior designer* has been defined within the profession many ways. Some definitions are broad, some are very specific, but certain common elements are included in most definitions (Slotkis, 2006). In specific, modern definitions state that an interior designer must have the three E's: education, experience and examination. The most accepted, endorsed and cited definition for *interior design* was created by the National Council for Interior Design Qualification (NCIDQ), (2004) (see also American Society of Interior Designers (ASID), 2011; Harmon-Vaughan, 2002; Jones, & Allen, 2009; Koffel, 1999; Martin, 2008; Piotrowski, 2008). It reads:

Interior design is a multi-faceted profession in which creative and technical solutions are applied within a structure to achieve a built interior environment. These solutions are functional, enhance the quality of life and culture of the occupants and are aesthetically attractive. Designs are created in

response to and coordinated with the building shell and acknowledge the physical location and social context of the project. Designs must adhere to code and regulatory requirements, and encourage the principles of environmental sustainability. The interior design process follows a systematic and coordinated methodology, including research, analysis and integration of knowledge into the creative process, whereby the needs and resources of the client are satisfied to produce an interior space that fulfills the project goals (NCIDQ, 2004).

Interior design includes a scope of services performed by a professional design practitioner, qualified by means of education, experience and examination, to protect and enhance the health, life safety and welfare of the public. These services may include any or all of the following tasks:

- Research and analysis of the client's goals and requirements; and development of documents, drawings and diagrams that outline those needs
- Formulation of preliminary space plans and two and three dimensional design concept studies and sketches that integrate the client's program needs and are based on knowledge of the principles of interior design and theories of human behavior
- Confirmation that preliminary space plans and design concepts are safe, functional, aesthetically appropriate, and meet all public health, safety and welfare requirements, including code, accessibility, environmental, and sustainability guidelines
- Selection of colors, materials and finishes to appropriately convey the design concept and to meet socio-psychological, functional, maintenance, lifecycle performance, environmental, and safety requirements
- Selection and specification of furniture, fixtures, equipment and millwork, including layout drawings and detailed product description; and provision of contract documentation to facilitate pricing, procurement and installation of furniture
- Provision of project management services, including preparation of project budgets and schedules
- Preparation of construction documents, consisting of plans, elevations, details and specifications, to illustrate non-structural and/or non-seismic partition layouts; power and communications locations; reflected ceiling plans and lighting designs; materials and finishes; and furniture layouts
- Preparation of construction documents to adhere to regional building and fire codes, municipal codes, and any other jurisdictional statutes, regulations and guidelines applicable to the interior space
- Coordination and collaboration with other allied design professionals who may be retained to provide consulting services, including but not limited to architects; structural, mechanical and electrical engineers, and various specialty consultants
- Confirmation that construction documents for non-structural and/or non-seismic construction are signed and sealed by the responsible interior

- designer, as applicable to jurisdictional requirements for filing with code enforcement officials
- Administration of contract documents, bids and negotiations as the client's agent
 - Observation and reporting on the implementation of projects while in progress and upon completion, as a representative of and on behalf of the client; and conducting post-occupancy evaluation reports (p. 1) (NCIDQ, 2004).

How interior design fits the definition of a profession and Abbott's model.

According to Abbott's theory of professionalism, interior design fulfills the specific specifications to become a profession: (1) Interior design established professional organizations; the current professional organizations are the American Society of Interior Designers (ASID) and the International Interior Design Association (IIDA); (2) *Interior design* is a deliberate professional name change from *interior decoration*; (3) Interior design established a code of conduct and ethics through ASID and IIDA; (4) Interior design educational standards are set by the Council for Interior Design Accreditation (CIDA); (5) the certification examination requirement for interior design is the National Council for Interior Design Qualification (NCIDQ); and (6) Interior design is engaged in legislative actions across the United States (Martin, 2008; White, 2009).

The three E's: Education, experience, and examination. The three E's, education, experience, and examination, are required for professional membership in ASID and IIDA. It is also required for eligibility to sit for the NCIDQ exam and for eligibility to become state licensed, where applicable (Koffel, 1999; Martin, 2008). The following review of literature establishes the role that the three E's play in the formation of the profession.

Today, becoming an interior designer begins with an educational training that encompasses a wide variety of courses focusing on a very large body of knowledge. Educational

standards have continued to grow more stringent over the years as the primary focus of interior design has shifted to the health, safety, and welfare of the public (Piotrowski, 2008). The mark of a quality interior design educational program is one that holds CIDA accreditation. CIDA is acknowledged by design professionals as an information source for excellence in interior design education. Graduates from a CIDA accredited program are recognized as being prepared to enter the profession (Harmon-Vaughan, 2002). CIDA Standards are broad and comprehensive (see Table 2.1). These Standards highlight the breath of information in interior design education (Asay & Patton, 2010; Harmon-Vaughan, 2002; Nielson & Taylor, 2002).

The second requirement to become a professional interior designer is experience (Asay & Patton, 2010). The design apprentice must gain valuable on-the-job knowledge in working with clients and within all aspects of the industry (Asay & Patton, 2010; Martin, 2008). The post-graduate apprenticeship must take place under the supervision of an NCIDQ certificate holder, a registered interior designer, or an architect who offers interior design services (Asay & Patton, 2010).

A combination of six years of interior design education and supervised experience is required for eligibility to sit for the NCIDQ examination (Asay & Patton, 2010; Martin, 2008). The NCIDQ tests for the minimum competencies required to enter into the professional practice of interior design and it identifies to the public those designers who have met minimum competencies (Harmon-Vaughan, 2002; Koffel, 1999; Nielson & Taylor, 2002). Passage of the NCIDQ is also required for professional level membership into interior design professional organizations such as ASID and IIDA (Piotrowski, 2008) and to become state licensed, where applicable (Koffel, 1999; Martin, 2008).

Table 2.1. CIDA Professional Standards 2011

CIDA Professional Standards 2011	
I. Mission, Goals, and Curriculum	
Standard 1. Mission, Goals, and Curriculum	The interior design program has a mission statement that describes the scope and purpose of the program. Program goals are derived from the mission statement and the curriculum is structured to achieve these goals.
II. Interior Design: Critical Thinking, Professional Values, and Processes	
Standard 2. Global Context for Design	Entry-level interior designers have a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contexts.
Standard 3. Human Behavior	The work of interior designers is informed by knowledge of behavioral science and human factors.
Standard 4. Design Process	Entry-level interior designers need to apply all aspects of the design process to creative problem solving. Design process enables designers to identify and explore complex problems and generate creative solutions that support human behavior within the interior environment.
Standard 5. Collaboration	Entry-level interior designers engage in multi-disciplinary collaborations and consensus building.
Standard 6. Communication	Entry-level interior designers are effective communicators
Standard 7. Professionalism and Business Practice	Entry-level interior designers use ethical and accepted standards of practice, are committed to professional development and the industry, and understand the value of their contribution to the built environment.
III. Interior Design: Core Design and Technical Knowledge	
Standard 8. History	Entry-level interior designers apply knowledge of interiors, architecture, art, and the decorative arts within a historical and cultural context.
Standard 9. Space and Form	Entry-level interior designers apply the theories of two- and three-dimensional design, and spatial definition and organization
Standard 10. Color and Light	Entry-level interior designers apply the principles and theories of color and light.
Standard 11. Furniture, Fixtures, Equipment, and Finish Materials	Entry-level interior designers select and specify furniture, fixtures, equipment and finish materials in interior spaces.
Standard 12. Environmental Systems and Controls	Entry-level interior designers use the principles of lighting, acoustics, thermal comfort, and indoor air quality to enhance the health, safety, welfare, and performance of building occupants.
Standard 13. Interior Construction and Building Systems	Entry-level interior designers have knowledge of interior construction and building systems.
Standard 14. Regulations	Entry-level interior designers use laws, codes, standards, and guidelines that impact the design of interior spaces.
IV. Program Administration	
Standard 15. Assessment and Accountability	The interior design program engages in systematic program assessment contributing to ongoing program improvement. Additionally, the program must provide clear, consistent, and reliable information about its mission and requirements to the public.
Standard 16. Support and Resources	The interior design program must have a sufficient number of qualified faculty members, as well as adequate administrative support and resources, to achieve program goals.

Health, safety, & welfare of the public. Before an occupation becomes state licensed, state legislators must first be convinced that the public's health, safety, and welfare would be endangered if the tasks were performed by someone unqualified (Jensen, 2001). The complexity of interior design has increased to the point where decisions made by interior designers have a definite impact on the health, safety and welfare of the public (Dickinson, Anthony & Marsden, 2009, Guerin & Thompson, 2004, Thompson, 2007). Table 2.2 identifies specified areas in which interior designers' impact health, safety, and welfare.

Interior designers are key members of the building team, providing safe access to and exit from interior spaces. Interior designers possess knowledge of national, state, and local building codes and standards, create barrier-free design and understand the properties of materials, including flammability, toxicity and slip resistance. Interior designers are also experts in ergonomics, indoor air quality, sustainability, lighting and acoustics (Hamilton, 2011; Jensen, 2001; Koffel, 1999). Hamilton (2011) adds that interior designers address many facets of interior space that have an impact on psychological and emotion well-being of the end-user.

Many interior designers use their knowledge to specialize toward specific populations and settings. Examples include designing healing environments for hospitals, spaces for the aging, spaces that cultivate positive mental health for persons with Attention Deficit Hyperactivity Disorder (ADHD), Post-Traumatic Stress Disorder (PTSD), or depression, and spaces that focus on Alzheimer patients (Hamilton, 2011).

Legislation: Interior design. As of January, 2012, 26 states and the District of Columbia regulate interior design in some fashion. Three states and the District of Columbia have practice acts and require state permission to perform certain types of interior design work.

Table 2.2. Interior Design Health, Safety & Welfare Table of Specifications

Interior Design Health, Safety & Welfare Table of Specifications
Sustainability: (Building materials, systems, occupants)
Human Behavior: (Psychological, sociological)
Human Factors: (Ergonomics, Anthropometrics, Proxemics)
Barrier-Free Design / Accessibility
Universal Design
Fire and Life Safety
Code Requirements / Regulations
Circulation: (Vertical circulation, Signage, Wayfinding)
Materials
Lighting: (Color, quality, use, control)
Acoustics: (Noise control, sound distribution, speech privacy, material selection, white noise, floor, wall, & ceiling systems)
Thermal Systems: (Mechanical system design, airflow, occupant reaction to thermal variables)
Indoor Air Quality: (Pollutant source control, filtration, ventilation variable, CO2 monitoring, mold prevention)
Distribution and Construction Systems: (Structural, Non-Structural, Power, Mechanical, HVAC, Data/Voice Telecommunication, Plumbing, Energy, Security, Building Controls, Interface of Furniture)

Twenty-one states hold interior design title acts. Two of these states allow anyone to practice interior design, but require a license to be called an *interior designer* or to describe one's work as *interior design*, whereas the other nineteen states require a license for people wishing to use titles like *licensed*, *certified*, or *registered* interior designer. One state requires an interior design permit. Twenty-four (24) states do not regulated interior design at all, although four of these states have current legislative bills on the docket (ASID, 2012; IIDA, 2012).

Interior designers have faced resistance to their quest to become a separate profession (Friedrichs, 2002). There remains considerable opposition to interior design legislation from others who do not recognize the contribution and accountability that interior designers provide to the public's health, safety, and welfare (White & Rabun, 2008).

Importance of Perception in the Formation of the Interior Design Profession.

Unfortunately, when reviewing all the above actions toward professionalism and comparing them to the definition of a *profession*, there is still a missing element: bringing value to or creating respect for professional interior designers in the minds of the public (White & Rabun, 2008). Marshall-Baker (2004), past president of IDEC and head of the Interior Architecture program at University of North Carolina, Greensboro states that what interior designers say about themselves does not matter as much as what others perceive. Interior designers will not achieve professional status until others perceive their work to be of value to society (Anderson et al., 2007).

Extrinsic perceptions of allied professionals: Architecture. The profession of architecture sees its jurisdictional boundaries as being infringed upon as interior design moves toward becoming a licensed profession (Ross, 2008). The position of the American Institute of

Architects (AIA) is that interior designers are unable to protect the health, safety, and welfare of the public because they do not have the education and training needed to do so; therefore giving them this responsibility would actually put the public in danger. They further express that architects are the only building professionals to have a broad enough knowledge base to understand all the complexities of a building (Wesolowski, 2008). They perceive that interior design practice legislation is trying to divide a building into two parts: the outside and the inside (Giattina, 2000), but feel that this cannot be done because buildings are complex systems that require comprehensive knowledge to coordinate the overall safety systems (Guillot, 2005).

Steffian (2000), past president of the National Council of Architectural Registration Boards (NCARB) and fellow member of AIA, argues that interior designers are attempting to practice architecture without the same strenuous level of education, experience, and examination. He further states that if interior designers wish to be licensed, they should study to become an architect first, then specialize in interiors (see also Friedrichs, 2002; Giattina, 2000; Guillot, 2005). In accordance, architects across the country, in an effort to prevent interior designers from *illegally practicing architecture*, are lobbying their legislators against interior design legislation (Ross, 2008). Language that reinforced the stereotype of interior designers as decorators is used as a weapon to fight interior design legislation. For example, Joseph Giattina, Jr. (2000), past president of NCARB and fellow member of AIA, goes so far as to say that “Interior design is interior decoration with a new name...and while bad taste might be offensive, there is no evidence that anyone has been harmed by a bad color scheme” (p. 1).

Despite the opposition from professional architecture organizations, there are individual architects that understand the value of licensing interior designers. Sawasy (2009a), an architect

and past president of IIDA, argues that architects work with a team of consultants for even the simplest jobs. These might include a civil engineer, an electrical engineer, a mechanical engineer, a soils engineer, a structural engineer, all expected to be educated, trained and licensed. Sawasy questions why an architect would want to have someone on the team that does not meet these requirements. He goes on to argue that well designed interior spaces that meet codes, don't happen by accident. Interior designers can't just hope that selected finishes and patterns won't harm or disorient the client (Sawasy, 2009a).

Extrinsic perceptions of allied professionals: Institute of Justice, National Kitchen & Bath Association, Interior Design Protection Council. As professional interior designers mobilized legislative bodies to enact both title laws and practice laws, an argument arose between interior designers and interior decorators as to the real definition of interior design (Ross, 2008). With the help of the Institute of Justice (IJ), a civil liberties law firm that litigates nationwide on behalf of entrepreneurs facing anti-competitive state licensing laws (Ewing, 2008), interior decorators began a campaign to fight against interior design legislation. The Interior Design Protection Council (IDPC) and the National Kitchen and Bath Association (NKBA), among other entities, have stressed that the nationwide push for more interior design regulation has not come from the public or the government (Ewing, 2008), but from a small handful of *interior designers* who seek to limit their competition by imposing unnecessary restrictions on the design industry (Biasi, 2008; Carpenter, 2008b; Ewing, 2008; Interior Design Freedom Council (IDFC), 2008; Nagorsky, 2008; NKBA, 2008b). It is important to note that these organizations make no distinction when they use the term *interior designer* between an interior decorator with no formal training and an interior designer who meets professional

education, experience and examination competencies (Martin, 2008). They go on to challenge interior design's professional status by attacking three of the criteria outlined by Abbott's professionalization theory as steps necessary to move from an occupation to a profession (Martin, 2008; White, 2009). Instead of the three Es, *education*, *experience*, and *examination*, required to become a professional interior designer, the IDPC has suggested that *intelligence*, *imagination*, and *integrity* would serve the public's interests just as well (IDPC, 2008; White, 2009).

In addition, the NKBA promotes various pathways to enter into the interior design profession. They believe that the necessary skills to perform interior design functions can be acquired through extended work experience and that a formal college education is not needed. They further suggest that the media, including design publications, websites and television networks/programs offers many ways to educate people about interior design. (NKBA, 2008b; White, 2009). This sentiment is repeated as these organizations argue that legislation requiring interior designers to take the NCIDQ exam is discriminatory because the exam is expensive, requires the applicant to obtain a degree in interior design and forces the applicant to complete an apprenticeship under a NCIDQ certified professional designer (California Legislative Coalition for Interior Design (CLCID), 2008; Nagorsky, 2008; NKBA, 2008b).

The IDPC (2008) argues that the practice of interior design has little or nothing to do with the protection of the health, safety, and welfare of the public (see also Nagorsky, 2008; NKBA, 2008a; NKBA, 2008b). Carpenter and Ross (2008), Institute of Justice (IJ) advocates, suggest that their constituents' First Amendment rights are being violated by interior design legislation and their economic viability in the marketplace is being harmed. The NKBA (2008a, 2008b)

adds that such legislation harms the public by artificially inflating consumer prices, erects unnecessary barriers to enter into the interior design profession, creates government-imposed advantages to only a small fraction of designers and fails to demonstrate any social benefit (also see White, 2009). They argue that interior design legislation will limit consumer choice while increasing the costs of design services (Biasi, 2008).

Extrinsic perceptions of the public. The public holds a basic understanding of what professions such as dentist, doctors, accountants, lawyers, engineers, and even architects do. They even understand that these professions require minimum competencies to practice (Whited, 2009). But the public does not know what a professional interior designer does beyond decorating and does not associate interior designers with the minimum professional competencies of the three E's: education, experience and examination, but rather with color, textiles and furniture (Carpenter, 2008). One of the main reasons for this confusion is that in most states, anyone can call himself/herself an interior designer and practice interior design (Pile, 2007; White & Rabun, 2008; Whitfield & Smith, 2003). The ambiguity of title and professional function confuses the public and undermines the value an interior designer contributes to protecting the health, safety, and welfare of the public (Pile, 2007; White & Rabun, 2008).

In addition, research reveals that affect is a powerful basis for attitudes, meaning that one's perception is based on what is seen and experienced (Albarracin et. al, 2005). When applied to interior design, the public's perception of the interior designer is based on what is seen, not on the interior designer's qualifications (Carpenter, 2008). Unfortunately for interior designers, measures to protect health, safety, and welfare are often not visible, and when they are seen, blend in with the aesthetically pleasing (Wright, 2006). Therefore, the public does not

associate a designed space with protecting the end-user and attitudes are not connected to the idea that interior designers impact health, safety, and welfare (Carpenter, 2008).

Occupational stereotyping. Public perceptions toward the interior design profession suffer from occupational stereotyping. The public, as well as many other professionals in the building industry, maintain preconceived, superficial perceptions that blur the line between interior design and interior decoration. Even though the gender balance is changing with time, interior designers are perceived to be predominately feminine in contrast to architects and engineers who are perceived to be predominately masculine (Havenhand, 2004). This coincides with research showing that occupational titles associated with women are perceived to not be as valued as those associated with men (Havenhand, 2004; Hultin & Szulkin, 1999; Matthews & Hill, 2007; Matthews & Hill, 2011; Oswald, 2003; White, 2009; Williams, 1995). Therefore interior design is perceived inferior to architecture and engineering by the public (Havenhand, 2004; White, 2009; Whitfield & Smith, 2003).

In addition, men within the field of interior design are stereotyped as being feminine, and therefore, homosexual. For many male designers, both straight and gay, this stigma impacts negatively on relationships with family and friends, as well as on professional relationships with colleagues and clients (Matthews & Hill, 2011; Wood-Nartker, Sepanski, McCrady, & Gligor, 2007). The perception of femininity and sexual orientation of men in interior design helps to explain why men continue to be underrepresented as interior designers (Kimmel & Aronson, 2004; Matthews & Hill, 2011; Williams, 1995). This stereotype of interior design as being feminine directly impacts the public's perceived value of interior design as a profession (Matthews & Hill, 2011).

Influence. One of the major influences of perceptions towards interior design is the media. This is problematic since the media shows little to no distinction between an interior designer and an interior decorator (Carpenter, 2008b; Martin, 1999; Waxman & Clemons, 2007; White, 2009). The term interior designer is used to identify anyone who makes a room look better, from a fashion designer who decorates homes, to a decorative painter (Steinmetz, 2009), not to mention celebrities, who have no professional training or experience in interior design (Fineman, 2006). To reinforce the occupational stereotype, most design media focuses on the aesthetic part of interior design, failing to recognize the value that the design gives to the end-user (Baltimore, 2005; Carpenter, 2008b; White, 2009).

A study by ASID (2005) revealed that consumers were most influenced by home magazines when making design decisions. In addition, Carpenter (2008b), Director of Strategic Research for the Institute of Justice, conducted a study that revealed that within most design publications, writers, and editors fail to make any differentiation between an interior decorator and a qualified interior designer when using the term *Interior Designer*. To add to the public's confusion, research by White and Dickson (1993), Fellow members of IDEC, revealed that most publications defer design credit from the interior design team to the architectural firm.

Design-related reality shows supposedly gives the audience a realistic view of the interior design profession, but research revealed that television shows further confuse the public by making no distinction between an interior decorator and a qualified interior designer (Waxman & Clemons, 2007). Waxman and Clemons (2007), Fellow members of IDEC, found that this influence created an unrealistic perception of the design profession and that viewers have a fuzzy understanding of actual design practice (see also Banks & Banks, 2003). In 2005, ASID

conducted a survey with interior designers and consumers to determine differences in perceptions. When consumers were asked if the design-related reality shows present a realistic view of interior design, 55% of consumers believed they did, while only 23% felt they did not. (Design TV: What's hot and what's not, 2005; Waxman & Clemons, 2007) Martin (2004), co-author of the interior design Body of Knowledge, further explored this trend and documented the inaccurate portrayal of the interior design profession on television. She developed a list of six “myths” portrayed about interior design. These include 1) anyone can be an interior designer, 2) the goal of the design process is to surprise the client, 3) speed equals quality design, 4) good design is trendy and cool, 5) designing a space is super-expensive, and 6) interior designers are flamboyant airheads (also see Waxman & Clemons, 2007).

The media also reinforces interior design as a feminine occupation. Matthews & Hill (2007), professional interior designers, revealed that design-related magazines targeted to the public used feminine linguistic forms eleven times more than architectural magazines. In addition, interior design-related television shows use sensitive and emotional words that are classified as feminine. Examples of these terms include *fabulous*, *precious*, *darling*, and *sensuous* (Matthews & Hill, 2007). Images are also used to reinforce femininity within interior design. Bubbly women in short skirts and high heels dominate home décor related television shows (“Interior Design Freedom Blog” (IDFB), 2008) followed by men with feminine qualities that appear to have unique design sensibility. These television shows highlight a societal perception that homosexuality equals creativity, thus gay men equal fabulous designers. Media images of gay men such as those seen in the reality show *Queer Eye for the Straight Guy*, have reinforced the idea that gay men generally possess talents that straight men seem incapable of

fully developing. In contrast, television and movies portray logical thinking professionals, such as architects and engineers, as straight men (Matthews & Hill, 2011).

Efforts to Change Perceptions of Interior Design

Despite decades of efforts by an army of volunteers to change the perceptions of the public, allied professionals, and state legislators, there is still much to be done (Thomas, 2011). This transformation must take place with forward thinking interior design practitioners and within interior design education (Anderson et al., 2007). In addition, it is believed that perceptions will continue to evolve as more state interior design licensing laws are enacted and as end-users further recognize the improvements that the design process has made on their lives (Thomas, 2011).

Sawasy (2009b), past president of IIDA, believes that interior design practitioners need to publicly tell their stories and to focus on how health, safety, and welfare elements are incorporated into solving problems. Marshall-Baker (2004), past president of IDEC, adds that interior design practitioners must educate their clients about the impact design decisions have on their health, safety, and welfare (see also Waxman & Clemons, 2005). If interior designers do not take the time to advocate for the profession and to educate others, the public will continue to think interior design and interior decoration are the same thing (Whited, 2009).

Interior design educators also play a significant role by educating upcoming interior designers as advocates for the profession (Anderson et al., 2007). Interior Design programs must select the best students, give them an excellent education, provide awareness of interior design's value, and produce graduates with the expectation they will make a contribution (Waxman & Clemons, 2005).

A crucial point in creating change is to target the perceptions of state legislators. Over the past three decades, interior design legislation has been met with both failures and successes. Recently, interior design was awarded its greatest victory yet. On March, 2011, an appeal to overturn the existing interior design practice act in Florida was brought before the 11th United States Court of Appeals. National attention was captured as a huge campaign for and against the appeal was fought. The second highest court in the nation ruled in favor of professional interior designers. They determined that the practice of interior design is valid and agreed that it was in the best interest of the public to limit the practice of interior design to those who are qualified through design education, experience and examination. A national ruling such as this creates a precedence that will have implications across the country. It is expected that the weight of this national decision will help to influence state legislators of the value that interior designers have on society. As more state interior design licensing laws are passed, public perceptions, as well as those of allied professionals, will also change and place more value on the impact that interior design has on the health, safety, and welfare of the public (Thomas, 2011).

Changing perceptions about interior designers from people who create pretty spaces with color and pattern to professionals who psychologically and physiologically improve quality of life continues to be a long, slow, and continual process. This change is critical to advance, develop, and protect the profession of interior design (Marshall-Baker, 2001). Documentation and monitoring perceptions will guide interior designers as they continue to progress into a profession (Marshall-Baker, 2001).

Perceptions of Interior Design: Previous Studies

A survey of existing literature was conducted to gather data on perceptions of interior design. These studies were analyzed for instrumentation and methodology as stated here.

Perceptions of Title

In 2008, Carpenter conducted a study on behalf of Institute of Justice (IJ) to gather the public's perception of the title *interior designer*. Fourteen hundred randomly chosen participants were polled. Seven hundred were chosen from Texas, a state with an interior design title act and seven hundred were chosen from Ohio, a state with no interior design laws. The results of the study showed no significant difference between the responses of the two states (Carpenter, 2008).

The questionnaire was created by IJ and conducted by Strategic Vision. It contained forty-one questions about five occupations: interior designer, computer scientist, priest, auto mechanic, and chef. Eight questions were directed to each occupation. Three of these questions corresponded to the three E's, education, experience, and examination; two of the questions corresponded to false qualifications; and three of the questions corresponded to work functions. The questionnaire responses were in the form of a six-point Likert scale, with six as *strongly agree* and one as *strongly disagree* (Carpenter, 2008).

The results showed that when the participants were asked a question about the qualifications of an interior designer, such as a required education, experience and examination competency, responses showed the participant's uncertainty with an average score falling between *somewhat disagree* and *somewhat agree*. In addition, there was no significant difference in the participants' understanding of actual interior design qualifications and

inaccurate qualifications. When questions were asked pertaining to job functions such as designing a space using furniture, fixture, color, etc., the participants' answers revealed that they were more confident about these functions, showing an average response score falling between *somewhat agree* and *agree*. The results of the study infer that people identify the occupational title of *interior designer* more with the nature of the work than with qualifications. In addition, it is important to note that there was no significant difference in the perceptions of participants in a state with title registration laws and a state with no interior design legislation (Carpenter, 2008).

Consumer Perceptions and Expectations

ASID commissioned a survey in 2005 to document consumer perceptions and expectations of interior designers. The intended use of the results was to aid residential interior designers to effectively serve their clients (ASID, 2005).

ASID gathered data through a telephone survey. Participants were asked three screen questions for eligibility. Homeowners with a minimum \$75,000 household income who had remodeled or redecorated their homes within the past five years and/or planned to do so in the next two years were sampled for information about the services they used or intended to use. A national sample divided participants into three groups of equal size by household income: \$75,000 to \$125,000, \$125,000 to \$200,000, and \$200,000 and higher. The total number of respondents equaled six hundred (ASID, 2005). Participants that passed the screen questions moved on to a demographics page and thirty-three perceptual questions. Three of these questions were open-ended and 30 of these questions were closed-ended with multiple choice answers (ASID, 2005).

Findings from this study revealed that consumers using interior design services were more likely to be female and between the ages of 35 and 65. A comparison of participants' demographics showed no significant differences between those who used an interior designer and those who did not (ASID, 2005).

The findings showed that consumers get most of their ideas about design from magazines, followed by the internet, television shows, and home improvement stores. The most cited magazine used was *Better Homes and Gardens*, whereas the most cited magazine used by men was *Architectural Digest* (ASID, 2005).

Participants of the ASID survey offered many different definitions of an interior designer, but the most prevalent perception considered the interior designer as a professional who has a superior ability and knowledge to transform an interior environment into something better. Many perceptions focused on the selection of furniture, fabric and finishes, but the majority of the participants viewed interior designers as vision or idea people. Only 19% of the participants associated formal training, education or experience with interior design. Many of the respondents stressed that experience such as knowledge of the designer's previous work and reliable referrals would have more influence on their decision to hire a particular designer than knowledge of the designer's degree or credentials. Many consumers trying to locate a qualified interior design used the internet; however, these consumers seem to be younger. The older consumer with higher annual income tended to rely more on friends as their resource. It appears that eighty percent of the sample had undergone a remodeling project within the past two years and of those eighty percent, 49% chose to do the work themselves, whereas 34% hired a

contractor, 14% hired an interior designer, 9% hired an architect, 8% hired a kitchen/bath remodeler and 7% hired an interior decorator (ASID, 2005).

Perceived Social Standing

Whitfield and Smith (2003) conducted a study to determine the perceived social standing of the design professions including graphic design, industrial design, fashion design, interior design, and furniture design. Six dimensions of perceived social standing were used (1) level of social standing, (2) education level, (3) income level, (4) amount of responsibility, (5) usefulness as a profession, and (6) proportion of women in the profession (White, 2009; Whitfield & Smith, 2003).

The subject groups consisted of a balanced sample of students from universities in Australia and South Korea (White, 2009; Whitfield & Smith, 2003). The Australian group consisted of 172 design students and 133 educational students. The Korean sample consisted of 197 design students and 202 educational students (Whitfield & Smith, 2003).

Occupations were selected for the questionnaire based on previous research on occupational standing. They consisted of: judge, solicitor, architect, doctor, physiotherapist, nurse, police constable mechanic, barperson, cleaning, industrial designer, interior designer, furniture designer, graphic designer, fashion designer, and artist. Participants were asked to rate each of the given professions based on the six dimensions of perceived social standing using a six-point Likert scale (Whitfield & Smith, 2003).

The results revealed only minor differences in rating the professions between the two countries. The design occupations consistently were rated at an intermediate level, although the Korean student tended to rate the design professions slightly higher on each of the dimensions

than the Australian students. The design students consistently rated the design occupations higher than the education students. All the participants rated interior design and fashion design as *female* occupations. They also rated the design professions low on the service to the community dimension. In addition, the Australian education students rated all the design professions low in occupational prestige, with exception to graphic design and industrial design. The study concluded that Western designers should rightfully be concerned about the public's lack of recognition and understanding of the design professions. (White, 2009; Whitfield & Smith, 2003).

Public Opinions of Design Practices

Martin (1999) documented public opinions of the practices of architecture, interior decoration, and interior design, and collected data on how these opinions were influenced. Martin also explored the public's perceptions of these occupations as professions and documented the public's opinion about the task, responsibilities, qualifications and characters of each occupation (Martin, 1999).

Martin created a questionnaire with the following three pretesting methods. An in-person interview using twenty questions formed the first method. Telephone interviews, also using twenty questions, formed the second method for pretesting. A total of 37 phone calls were made, but the researcher only established personal contact with fourteen subjects. Responses from the pretested questionnaires, both in-person and by telephone, were used to refine the questionnaire. The third pretest was mailed out to a random sample of 100 individuals nationwide, after which, Martin did a further refinement (Martin, 1999).

The final, 11 page questionnaire contained 41 questions using both open-ended and closed-ended questions. The format and types of questions varied throughout the instrument to add variety and to keep the participant interested and alert. The first section contained seventeen questions that focused on learning what the participants knew about architecture, interior design, and interior decoration. The second section contained seven questions that had the participant read about a design situation, and then asked questions of the participant about the professional's responsibilities regarding the situation and then asked questions about the professionals' responsibilities. The intent determined the level of honesty in the responses and increased question reliability. The third section of the questionnaire focused on the participants' attitudes and opinions. Response items were formatted in a Likert scale. An important part of the last sections of Martin's questionnaire were the demographics since difference in gender and location influenced responses to certain questions (Martin, 1999).

Martin mailed the final questionnaire out to a stratified sample of 1,500 adults across the United States. A professional sampling group drew the sample based on multi-stage cluster sampling. Follow-up phone calls were made to members of the sample who did not respond in a timely manner. The final number of responses was 400 or 26.6%. Test run on the gathered data included frequencies, cross-tabulations, and Analysis of Variance (ANOVA) (Martin, 1999).

This study found that the public's beliefs concerning architecture, interior design, and interior decoration are influenced by their personal identity and interpersonal communication. In addition, interaction among variables of the constructs yielded significant results. Age, education, economic standing, gender, and social standing were all found to be significant variables in determining if a respondent would know an architect, interior designer, or an interior

decorator. The participants of this study consider architects and interior designers to be professionals, but not at the level that they do for physicians. The participants were uncertain about the responsibilities and qualifications of practitioners (Martin, 1999).

Instrument Construction

The literature revealed there to be no existing instrument that could gather data on perceptions toward an interior designer's ability to impact the health, safety, and welfare of the public; therefore, one had to be created. The following portion of the literature review contains a look at studies focused on the creation of evaluation instruments. In addition, a variety of existing evaluation instruments was reviewed for content, item-structure, and formatting. Together, the body of research determined the processes needed to create a reliable and objective instrument.

Introduction

A well-designed questionnaire should meet the goals of the research study, gather the most complete and accurate information possible and be mindful of time and resource constraints (Iarossi, 2006). Before the instrument is developed, the researcher must decide the sample to be used and the mode of administration. Self-administered instruments are one of the most common modes of administration (Dillman, 2000; Fink, 2003; Nardi, 2003) and are best designed for investigating attitudes and opinions. Self-administered questionnaires may be given in person, through the mail, through email, or on a web page (Fink, 2003; Nardi, 2003). With the widespread penetration of the internet, online surveys have emerged as the most popular form of data collection (Couper, 2008; Dillman, 2000; Nardi, 2003; Schober & Conrad, 2008) thus yielding higher response rates (Nardi, 2003).

Development of the Table of Specifications

A Table of Specification must be developed before writing questions. Hence, the first task is to figure out the factors that are relevant to the goals of the research. This may be accomplished through a literature review, consulting a panel of experts in the area being studied, or through exploratory conversations with representatives of the potential sample group (Iarossi, 2006; Nardi, 2003). In addition, an expert panel is commonly used to help determine what questions should be created and used (Ballard, 1994; Hall, 2006; Winston, 2010).

Develop Preliminary Item Pool

The Table of Specifications is used to structure preliminary items for the questionnaire. Researchers should create 25-50% more items than are estimated needed (Ballard, 1994).

The goal of writing a survey item is to develop a question that every potential respondent will interpret the same way. Writing good questions about what people say they perceive can be very difficult (Dillman, 2000). The way questions are worded and the ways in which respondents perceive and respond to the wording impacts the accuracy of the gathered data (Iarossi, 2006; Nardi, 2003). The wording of the questions must be focused on the research objectives, must be suitable for the method of administration, and must be written at the respondents' level of understanding (Nardi, 2003). It is important to keep the wording short and simple and to avoid using abbreviations or acronyms (Glynn et al., 2004; Iarossi, 2006).

Questions should be reviewed to make sure they are not confusing. Avoid using the words *always* and *never* in the question. Questions should be kept focused on one point and avoid trying to measure two things within one question (Dillman, 2000; Fink, 2003; Hall, 2006; Iarossi, 2006). It is important to avoid loaded questions and questions with built in assumptions.

Emotionally charged words or using negative/double negative expressions within the question should also be averted. Every effort should be made to avoid influencing the respondents' answers (Fink, 2003; Nardi, 2003). It is not uncommon to revise the initial questions multiple times before getting the wording right (Iarossi, 2006; Nardi, 2003).

Great attention should be given to the response items for each question as the format can affect the kind of answers given (Schober & Conrad, 2008). Survey questions are classified as open-ended or closed-ended. Open-ended questions ask for a reply in the respondent's own words. Closed-ended questions ask the respondent to choose a given answer (Fink, 2003; Nardi, 2003). Most researchers use closed responses because they are easier to capture and analyze than open-ended answers (Schober & Conrad, 2008). The answer choices for closed-ended questions can take on three forms. The first is called *nominal* or *categorical* response choices because they have no number value (i.e.: *male* or *female*). The second response type is called *numerical* and is used when asking the respondent to choose a number for the answer. The third response type is called *ordinal* and is used when you are asking the respondent to rate something from very positive to very negative (Fink, 2003). Reviewed surveys created to measure perceptions often utilized a Likert scale for these types of answers (Hall, 2006; Johnson, 2010; Winston, 2010).

Question Order and Format

The format of the questionnaire should be influenced by an appearance that is easy for the participant to understand, easy to score, and easy for the researched to transfer the responses for analysis. An introduction is used to briefly explain who the research is for and the purpose of the study, followed by instructions for how to complete the survey (Iarossi, 2006; Nardi, 2003).

The participant should be informed as to if the survey is confidential or anonymous (Nardi, 2003). Questions must be placed in a logical order and formatted in a way that is uncluttered and easy to understand (Iarossi, 2006). The first questions should be easy, pleasant and interesting, as it will build confidence in the respondent, arouse interest, and remove any suspicions (Dillman, 2000; Iarossi, 2006; Nardi, 2003). In general, one question should lead easily to the next. Broad questions about a topic can be narrowed to more specific questions. It is common to group subjects together with transition statements used to lead the participant into a new subject area (Iarossi, 2006; Nardi, 2003).

Conduct Pilot Study

The pilot study represents the first live test of the preliminary instrument and the last step in finalizing the wording of the questions (Iarossi, 2006). The preliminary instrument is pre-tested on a small sample of respondents similar to those who will make up the final sample of the study (Gay & Airasian, 2003; Iarossi, 2006; Nardi, 2003). Convenience samples should be avoided (Iarossi, 2006). The pilot study is the best way to determine if there are questionnaire flaws, unclear instructions, confusing wording of items, confusing formatting (Martin, 1999; Nardi, 2003), and to determine how long it takes to complete the survey (Gay & Airasian, 2003; Iarossi, 2006; Nardi, 2003). It usually takes no more than 12-25 participants to reveal problems in the preliminary instrument (Iarossi, 2006).

Analyze Results of Pilot Study

Data gathered from the pilot study should be analyzed and tested for reliability. A *Cronbach's alpha* is the most common statistical test run to determine internal consistency reliability coefficient. Research results are not replicable without reliability, which is a

fundamental component to the scientific method. In this analysis, if alpha equals zero (0), there is only an error component. If alpha equals one (1), there are no errors. By convention, an alpha should be at least .70 or higher to be considered reliable (Garson, 2008).

Develop Final Instrument

The criteria for determining which test items would be included on the final draft of the instrument included: (1) proper discrimination between high and low level of knowledge, (2) difficulty between 25 and 75 percent for each item, and (3) at least 3% of the respondents selected each alternative response. The other items may be revised where appropriate, or deleted (Garson, 2008).

Summary of Chapter II

The literature review provided an opportunity to examine the important role that perceptions play in the formation of a profession with specific attention placed on the occupational standing of interior design. An additional review was conducted of previous studies focused on perceptions of interior design. This review of literature served to establish the groundwork necessary for the creation of an instrument to gather data on perceptions towards an interior designer's ability to protect the health, safety, and welfare of the public. Literature from various disciplines was examined, for instrument construction methods and uses in order to determine the processes needed to create an instrument that is valid, reliable, and objective. In Chapter III the specific methodology of this study will be discussed along with the chosen instrumentation.

CHAPTER III

METHODOLOGY

Introduction of Chapter III

Chapter three describes the methods and procedures used in this study concerning instrument development, study population, administration of the instrument, and statistical analysis of the collected data. The primary purpose of the research was to develop a valid, objective, and reliable survey instrument to assess perceptions of those who impact an interior designer's ability to protect the health, safety, and welfare of the public through legislation. This includes, but is not limited to, legislators, architects, engineers, builders/contractors, interior designers and interior decorators, as well as that of the general public. The secondary purpose of the study was to establish an initial profile of perceptions within building industry professionals towards an interior designer's ability to impact the health, safety, and welfare of the built environment, identification of the salient factors within those perceptions, and determination of the level of these factors through a factor analysis. The study also ascertained if there were differences in factors as determined by the participants' demographic backgrounds.

Significance

A characteristic of a good research topic is that it has theoretical or practical significance (Gay & Airansian, 2003). The New Oxford American Dictionary defines *significance* as being important or worthy of attention (Significance, 2005). Generally in research, a significant study is one that contributes knowledge and insight into a particular theory or provides relevance for practitioners (Neutens & Robinson, 2002).

A study was conducted to determine if gathering data on perceptions toward interior designers would contribute to the progression of the profession of interior design. The researcher created an informal questionnaire (see Appendix A) focusing on the significance that extrinsic perceptions might play on the progression of the interior design profession. The questionnaires were sent to educational and professional leaders in interior design (see Appendix B). The self-reported questionnaires were returned to the researcher through email. Using percentages, the responses were tallied to demonstrate the perceived significance of the study (see Table 3.1). Once practical significance was established, the researcher developed a valid, reliable and objective instrument to measure perceptions toward an interior designer's ability to protect the health, safety, and welfare of the public.

Instrumentation

The primary purpose of the study was to develop a valid, objective, and reliable survey instrument to assess perceptions toward an interior designer's ability to impact the health, safety, and welfare of the public. Figure 3.1 shows the steps involved in developing and refining the instrument.

Development of the Table of Specifications. A *Table of Specifications* is the guidelines set by a panel of expert jurors concerning what content should be included in the instrument to meet the instrument's objectives (Hall, 2006; Winston, 2010). For the study, the table of specifications ascertained the subject content that interior designers should be familiar with in regards to protecting the health, safety, and welfare of the public according to the Council for Interior Design Accreditation (CIDA) standards and the interior design Body of Knowledge (BoK).

Table 3.1. Findings Establishing Perceived Significance of this Research Study

Significance of Research Study	
50%	of the interior design leaders who responded believed gathering data on architects' perceptions of an interior designer's ability to affect health, safety and welfare would contribute to the progression of the profession of interior design
91.7%	of the interior design leaders who responded believed gathering data on how the public perceives an interior designer's ability to affect health, safety and welfare would contribute to the progression of the profession of interior design
83.3%	of the interior design leaders who responded believed gathering data on how registered interior designers perceive an interior designer's ability to affect health, safety and welfare would contribute to the progression of the profession of interior design
58.3%	of the interior design leaders who responded believed gathering data on how un-certified "interior designers" perceive an interior designer's ability to affect health, safety and welfare would contribute to the progression of the profession of interior design
50%	of the interior design leaders who responded believed gathering perceptual data would be beneficial to future evaluations and planning for Council for Interior Design Accreditation (CIDA) Standards
75%	of the interior design leaders who responded believed gathering perceptual data would be beneficial to future evaluations and planning for National Council for Interior Design Qualification (NCIDQ) exam
83.8%	of the interior design leaders who responded believed gathering perceptual data would be beneficial to future evaluations and planning for legislative efforts

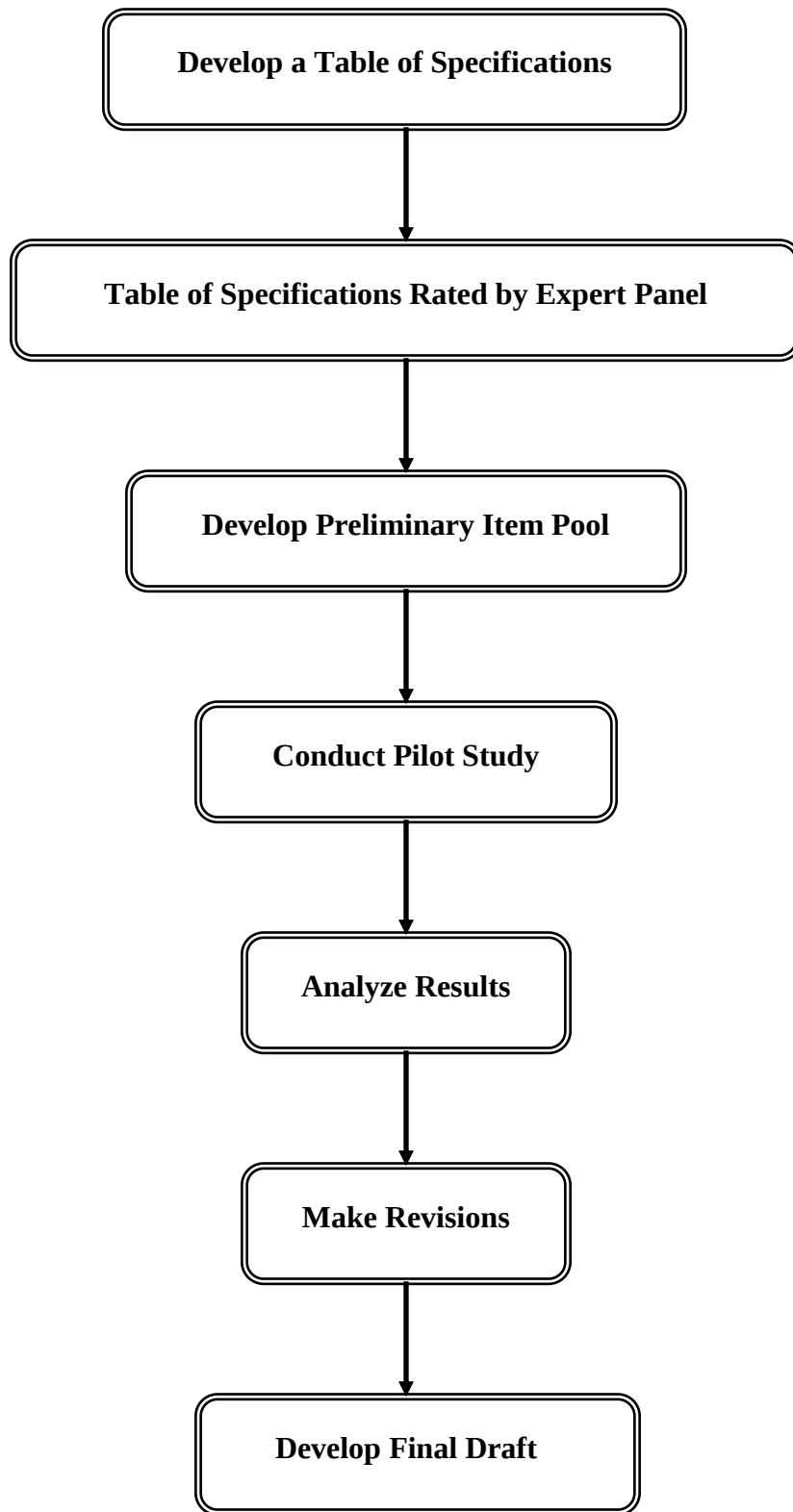


Figure 3.1 Process of Developing and Refining an Instrument for Measuring Perceptions Toward an Interior Designer's Impact on the Built Environment

These sources were chosen because they represent the knowledge that an interior designer should have upon receiving a degree in interior design (CIDA, 2010) and the knowledge needed by practitioners to perform the profession's work (Martin & Guerin, 2006). CIDA standards provide the foundation upon which students acquire the minimum knowledge necessary to protect the health, safety, and welfare of the public as they pursue professional status as an interior designer (CIDA, 2010). The interior design BoK is what an interior design practitioner knows and applies to a project (Martin & Guerin, 2006).

Review of these documents provided a subject content list (see Appendix C). The researcher condensed and generalized the subject content list into 14 subject categories to avoid duplication between sources. The 14 subject categories may be seen in Table 3.2. A jury panel of experts (n=4) was selected to rate the Table of Specifications. Expert jurors provide the framework of knowledge and practice toward the development of a valid, reliable, and objective instrument. For this investigation, a national panel of four experts made up of leaders in interior design education was enlisted. The potential jurors were selected based on their knowledge of current events in interior design. Each are recipients of the prestigious Interior Design Educators Council (IDEC) Fellow and 3 have served as IDEC president. The IDEC website provided contact information for the individuals selected to be invited to be on the panel (see Appendix D.).

The researcher made a personal phone call to each potential juror, explaining the purpose of the study and asking each potential juror to become a member of the panel of experts. If the potential juror agreed to be involved in the investigation, the researcher sent a letter through email explaining the process along with the Table of Specifications (see Appendix E.) for his or her

Table 3.2. Condensed Subject Content List of Health Safety and Welfare

	Health Safety and Welfare Content List
1	Sustainability (Building methods, materials, systems, occupants)
2	Human Behavior (Psychological, sociological)
3	Human Factors (Ergonomics, Anthropometrics, Proxemics)
4	Materials
5	Lighting (Color, quality, use, control)
6	Acoustics (Noise control, sound distribution, speech privacy, material selection, white noise, floor, wall and ceiling systems)
7	Thermal Systems (Mechanical system design, airflow, occupant reaction to thermal variables)
8	Indoor Air Quality (Pollutant source control, filtration, ventilation variable, CO2 monitoring, mold prevention)
9	Distribution and Construction Systems (Structural, Non-Structural, Power, Mechanical, HVAC, Data/Voice Telecommunications, Plumbing, Energy, Security, Building Controls, Interface of Furniture)
10	Circulation (Vertical Circulation, Signage, Wayfinding)
11	Code Requirements / Regulations
12	Fire and Life Safety
13	Barrier-Free Design / Accessibility
14	Universal Design

review. The letter instructed the potential juror to rate each content item on a scale of 1 to 5. A high rating correlated with a high-perceived importance. Four fully completed, rated lists were returned through email or fax. Each content item was then averaged and a distribution (see Appendix F.) was created.

Development of the Item Pool for Preliminary Draft. The researcher used the rated Table of Specifications to structure the instrument item pool development. It was determined that around 30 questions would be needed to cover the material. The review of literature revealed that a researcher should develop 25 to 50 percent more items than are estimated to be needed for instrument reliability (Ballard, 1994); therefore, 46 questions were created for the first preliminary draft of the instrument. It was also determined to format the questions utilizing a Likert scale (*Never* [1], *Almost Never* [2], *Sometimes* [3], *Almost Always* [4], and *Always* [5]) (see Appendix G).

In accordance with Nardi (2003), items were written using short, clear, and understandable language. Additional guidance by Farris (2001) was also taken into account that the items must be appropriate, relate back to the research, not be leading, ask for knowledge possessed by the respondent and not be too sensitive. The researcher also considered Iarossi's (2006) recommendation that each question should contain only one idea and be written at the reading level of the respondent. (see also Fink, 2003; Hall, 2006).

The preliminary questions were divided according to content and reviewed for duplications, need of revisions, and need for deletion. Then a final preliminary draft of the instrument was created with 34 questions randomly placed regardless of content. It was given the title *Health, Safety, & Welfare in the Built Environment*. All the questions were lead by the

stem: *Rate the importance for Interior Designers to....* Demographic questions were added to the end including *Profession, Years in Profession, State of Employment, Education Level, Gender* and *Year of Birth*. Guidelines for instrument administration and scoring were also created (see Appendix H).

Pilot of the Preliminary Draft. The purpose of a pilot study is to test the preliminary instrument on a small sample of the intended population. Possible errors in instrument directions, wording of questions, and timing are investigated (Gay & Airasian, 2003; Iarossi, 2006; Nardi, 2003). The researcher formatted the original pilot instrument to fit 8.5” by 11” paper for practical use and convenience. The University of Tennessee, Knoxville Institutional Review Board (IRB) approved permission to proceed prior to distribution.

The researcher utilized a sample of 40 participants representing a cross-section of 25% building industry professionals (architects, engineers and interior designers) and 75% from the non-building industry. The convenience sample was selected from faculty, staff, and students at the University of Tennessee at Chattanooga (UTC) in Chattanooga, Tennessee. The sample was chosen because it is representational of the different populations that can be sampled by the final instrument. In addition, many participants had knowledge of instrument methodology. Instructions explained to each subject that participation in the study was voluntary. Each participant was encouraged to provide revisions deemed necessary in regards to the test items or directions for administration.

The directions for the preliminary instrument asked each subject to rate his or her perceptions regarding an interior designer’s role toward protecting the health, safety, and welfare of the public in the built environment using a rating scale of *never* to *always*. In addition, the

instructions directed each participant to respond to every item on the list and that each item should have only one response considered the “best answer”. The directions also asked each participant to answer each question as honestly and accurately as possible, that there was no right or wrong answer, and to work as quickly as possible. A completed, returned questionnaire served as consent to participate in the study.

Pilot Study: Analysis of the Data. Participant responses were entered into a Microsoft Excel spreadsheet and imported into Statistical Package for the Social Sciences (SPSS) version 18.0. Statistical analysis was run to test the reliability of the instrument utilizing the results of the pilot test. Test items with no answer or more than one answer were thrown out. A *Cronbach’s alpha* is the most common statistical test run to determine internal consistency reliability coefficient (Garson, 2008); therefore, the researcher used it to analyze the reliability of the piloted instrument. Research results are not replicable without reliability, which is a fundamental component to the scientific method. In this analysis, if alpha equals zero (0), there is only an error component. If alpha equals one (1), there are no errors. By convention, an alpha should be at least .70 or higher to be considered reliable (Garson, 2008). The Cronbach’s alpha for the piloted instrument was. .961 (n=40), which is well above the acceptable criteria for reliability (see Appendix I).

Development of the Final Draft. Literature on test requirements established the criteria for determining which test items would be included on the final draft of the instrument. The criteria included: (1) proper discrimination between high and low level of knowledge, (2) difficulty between 25 and 75 percent for each item, and (3) at least 3% of the respondents

selected each alternative response. Items meeting all three criteria were used in the final draft of the instrument. The other items were revised where appropriate, or deleted (Garson, 2008).

The survey construction was translated from the piloted Microsoft Word hard-copy to an electronic version using Google Docs® (see Appendix J). Google Docs® is a free web-based host resource provided by Google® which allows the administrator to upload, manage, and share files through their personal Google® account. The researcher chose this electronic host because any individual with access to the internet can access information stored in Google Docs®, even if they do not subscribe to any other Google® application (Google®, 2011). In addition, Google® maintains that the data is stored for as long as required, will not expire, and that the information is guarded by strong privacy policies (Google®, 2010).

Sample. The secondary component to the purpose of the research study was to establish an initial profile of perceptions toward an interior designer's ability to impact the health, safety, and welfare of the built environment within the building industry. Members of the Construction Specification Institute (CSI) were chosen for this population because this professional organization represents a diversified membership base of allied professionals involved in the creation and management of the built environment (CSI, 2010). Local CSI officers granted permission to use the CSI Gulf States Region list-serve. The region includes the CSI members within the states of Alabama, Arkansas, Louisiana, Mississippi, Tennessee and the panhandle of Florida. In addition, the researcher requested to use the CSI national list-serve, but administrators in the CSI National Office only granted permission to publish the instrument on the national CSI LinkedIn group website and the national CSI Twitter group website.

Administration of the Final Draft

The researcher administered the final draft of the instrument regionally through a list-serve made up of members of the CSI Gulf States Region. In an effort to develop preliminary national test norms, the researcher also administered the instrument nationally through the CSI LinkedIn Group and the CSI Twitter Group.

The literature review revealed that advance notification of the survey yields a higher response rate, as participants like to know ahead of time that they will be contacted (Dillman, 2000). Therefore, a letter (see Appendix K) was distributed to the 206 members of the CSI Gulf States Region list-serve notifying them that they would receive an email request to fill out a questionnaire for an important university research project within a few days.

Three days later, the researcher sent an email (see Appendix L) to the members of the CSI Gulf State Region containing instructions and asking for participation by providing their opinions concerning the health, safety, and welfare of the built environment as it relates to interior designers. The email provided a link to the questionnaire and advised them that it would only take five to seven minutes to complete the survey. Seven days later, when there were no responses, a problem was discovered with the link. Immediate action was taken to resolve the issue and a new email (see Appendix M) was sent out to the Gulf States Region of CSI members explaining what had happened and asking them again for their participation. Two weeks later, in congruence with Dillman's (2000) *Five Needed Elements for Achieving High Response Rates*, a gentle reminder with the survey link was sent to the participants (see Appendix N) and the following week a thank you, with final reminder and link was sent (see Appendix O).

At the same time as the first survey notice was sent out to the members of the CSI Gulf States Region, the researcher posted the survey on the CSI Twitter page and the CSI LinkedIn page. This method of data collection was quickly deemed inadequate for several reasons. Administrators at the CSI national office had originally agreed to re-tweet the survey to all its members nationally, but did not respond to the tweet, nor to emails or phone messages concerning the tweet. Additionally, other notices quickly buried the survey on both social networks, making visibility low. In the end, with only two responses through LinkedIn, a decision was made to abandon this method of data collection.

In order to gain a higher return at the regional level, a decision was made within the first couple of weeks of survey distribution to collect additional data through an alternate means. The researcher attended a regional CSI tradeshow in Chattanooga, Tennessee, set up a table and solicited participation from tradeshow attendees to fill out hard copies of the survey.

In addition, in an effort to further increase the regional response rate and to increase statistical significance, the researcher sent out one final notice (see Appendix P) to the members of the CSI Gulf States Region list-serve. Again, participants who had already responded were thanked for their participation, time, and consideration and others were urged to participate. This occurred two months after the first notice. In the end, of the 206 members on the CSI Gulf States Region list-serve, a total of 79 completed the survey for an overall response rate of 38.3%. Because the sample was limited to those members of the specific region, the results may not be generalized outside of that context.

Data Analyses

In preparation for the data to be entered into SPSS, the data had to be coded. Responses to survey questions corresponded to the Likert Scale and were coded with “5” for *Always*, “4” for *Almost Always*, “3” for *Sometimes*, “2” for *Almost Never* and “1” for *Never*. A “5” represented a high level of knowledge needed whereas a “1” represented no knowledge needed by an interior designer to perform the specified task. However, seven individual response items in the questionnaire were worded intentionally in a reverse meaning. A “1” represented a high level of knowledge needed and a “5” represented a low level of knowledge by an interior designer to perform the specified task (see Appendix Q). A reverse score function was not needed when scoring these seven items. Coding for responses to demographic questions can be seen in Table 3.3.

Data were analyzed using SPSS version 18.0. A significance level was set using a p-value less than or equal to 0.05 meaning that there was a minimum of 95% expectancy that there was a real significant relationship (Gay & Airansian, 2003). The researcher ran a factor analysis to establish salient factors within the gathered perceptions and to determine the level of these factors. A Cronbach’s Alpha established reliability on the data. Descriptive statistics were generated for each factor and for the demographic items. This included means, frequencies, and standard deviations. In addition, an analysis of variance (ANOVA) or a multivariate analysis of variance (MANOVA) established if differences existed in the factors as determined by the respondents’ demographic backgrounds.

Table 3.3. Statistical Coding for Demographics

Demographic Coding		
Demographic	Code	Answer
Profession	1	Architect
	2	Engineer
	3	Builder/Contractor
	4	Interior Designer
	5	Building Product Rep/Material Supplier
	6	Educator
	7	Student
	8	Other
Years in Profession	1	0-9
	2	10-19
	3	20-29
	4	30-39
	5	40-49
State/s of Employment	1	Worked in states without interior design licensing
	2	Worked in a state with interior design title act
	3	Worked in a state with interior design practice act
Education Level	1	Pre-Baccalaureate
	2	Baccalaureate
	3	Post-Baccalaureate
Gender	1	Male
	2	Female
Year of Birth	1	Pre-1964
	2	Post-1963

Summary of Chapter III

The method used to create a valid, reliable, and objective instrument to measure extrinsic perceptions towards an interior designer's ability to protect the health, safety, and welfare of the public began by creating a content pool for the table of specifications. A panel of experts rated the items found on the preliminary table of specification. The information found helped develop the preliminary draft of the instrument. A convenience sample was used to pilot the preliminary draft. The pilot study results and comments were used to revise and clarify the instrument's instructions and test items. These modifications were used to create the final draft of the instrument. Members of CSI were solicited to participate in the administration of the final draft through a list-serve made up of members of the CSI Gulf States Region, the CSI Twitter and LinkedIn web pages, and through participating in person at a regional CSI trade-show. Once the completed data was received, it was analyzed and norms were calculated. Chapter IV will present the analysis and interpretation of data.

CHAPTER IV

ANALYSIS OF DATA

Introduction of Chapter IV

In Chapter IV an analysis of the findings and results from the *Health, Safety, & Welfare in the Built Environment* instrument are discussed with the purpose of classifying and summarizing the descriptive and statistical data gathered from a self-reported inventory. An inventory was designed to gather information about individuals' perceptions toward an interior designer's ability to protect the health, safety, and welfare of the public in the built environment. Among topics to be discussed within the chapter are the final instrument response rate, descriptive demographics, a statistical analysis including internal consistency reliability, mean scores, and an analysis of the research questions within this study.

Final Survey Response Rate

A regional e-mail administered to members of the Construction Specification Institute (CSI) Gulf States Region and an in person interview at the CSI regional trade show made it possible to gather data.. An effort was also made to gather a national sample through the CSI LinkedIn Group and the CSI Twitter Group, but this method of data collection was quickly deemed inadequate due to low visibility. Therefore, the final data collection focused on the perceptions of the members of the CSI Gulf States Region, which includes the states of Alabama, Arkansas, Louisiana, Mississippi, Tennessee and the panhandle of Florida (see Figure 4.1).

Two hundred and six (206) members of the CSI Gulf States Region were solicited to complete the final instrument, *Health, Safety, & Welfare in the Built Environment*. Of the 206 members, a total of 79 completed the survey for an overall response rate of 38.3% as seen in

Figure 4.2.



Figure 4.1. Construction Specification Institute Gulf States Region (Gulf States Region, 2011)

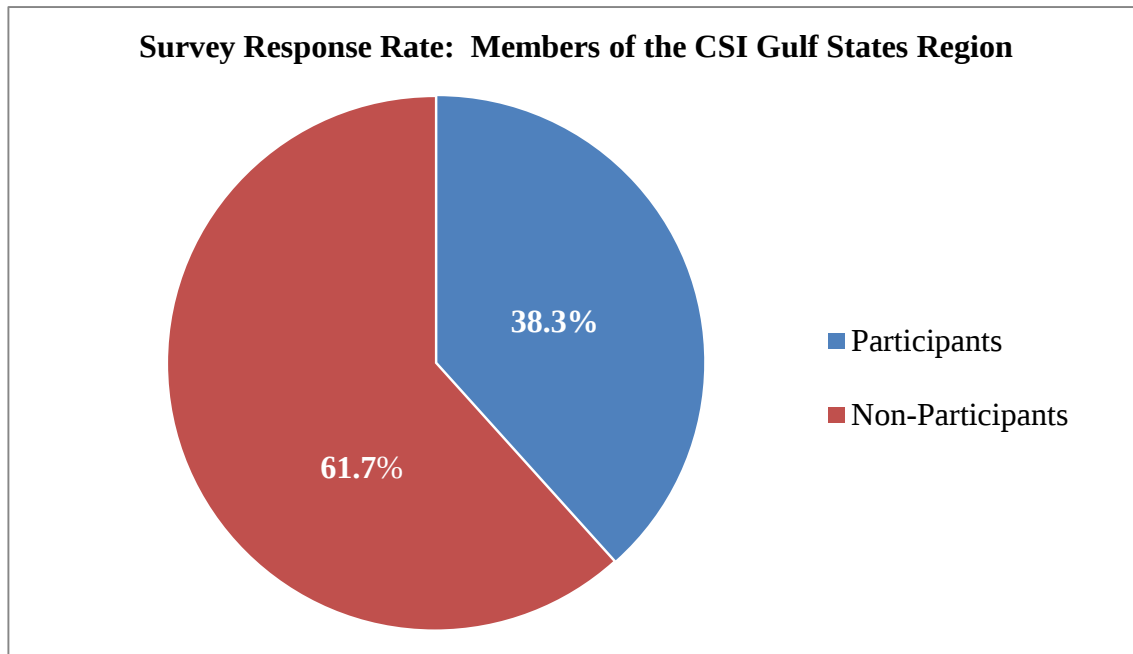


Figure 4.2. Survey Response Rate among Members of the CSI Gulf States Region

Members of the CSI Gulf States Regions received five e-mail notifications with the survey link. An e-mail sent to potential participants on February 4, 2011 notified them that they would soon receive a linkage to participate in the survey. The first notice, sent on February 7, 2011, gave only a 0% response rate. A problem with the link was rectified and a second first notice with a corrected link was sent out again on February 14, 2011. With only 26 responses (12.6%) within the first six days, a decision was made to solicit participation from CSI Gulf States Region members attending a CSI regional tradeshow in Chattanooga, Tennessee being held on February 20, 2011. Overall, 23 responses were collected at the tradeshow for a total of 49 responses (23.8%). In accordance with strategies for improving response rates, the researcher sent a reminder, with link, to the 206 members of the CSI Gulf States Region on February 28, 2011 prompting 11 additional responses for a total of 37 electronic responses and 23 hard-copy responses (29.1%). A final notice, with link, was sent on March 9, 2011 yielding an additional eight responses for a total of 45 electronic responses and 23 hard-copy responses (33%). In a final effort to improve the rate of response it was decided to solicit participation again on April the 12, 2011. This final effort resulted in 11 new responses for a total of 56 electronic responses and 23 hard-copy responses and a final total of 79 responses with a 38.3% response rate.

Descriptive Demographics

A demographic page included at the conclusion of the instrument helped identify potential significant differences toward the salient factors underlying the health, safety, and welfare specifications among demographically grouped participants within this study. To identify the year of their birth, participants selected one of the following options: *before 1946*, *1946-1964*, *1965-1976*, *1977-1998*, *After 1998*. Each category represents a specific generational

group: the Silent Generation, Baby-Boomers, Generation X, Millennials and Generation I. Table 4.1 shows the participants responses to the demographic question *Year of Birth*.

Participants asked to identify their gender could select one of the two available options: *male* or *female*. Of the seventy-nine (79) respondents, 62% (n=49) identified themselves as male and 38% (n=30) identified themselves as female (see Figure 4.3).

The demographics portion also asked participants to identify their education level using one of the following responses: *High School Diploma, Associate Degree, Bachelor's Degree, Master's Degree* and *PhD*. The majority of the respondents (65.8%) held a bachelor's degree. Table 4.2 shows the participants responses to the demographic "Level of Education".

Participants asked to identify a profession could choose from the following options: *architect, engineer, builder/contractor, interior designer, building product rep/material supplier, educator, student* or *other*. Those who identified themselves as *other* could further identify their profession in a space provided. Examples included Building Material Specifier, Building Consultant, and Building Administrator. Table 4.3 shows the participants responses to the demographic question *Profession*.

Finally, the demographics page asked respondents to write in the state/s in which they practiced. These states were then coded to correspond with the current interior design legislation within that state: *title act, practice act, or no legislation*. If a participant identified practicing within more than one state and one of those states held an interior design practice act, they were coded as *Practice Act*. If there were no practice act, but one of the states held a title act, the participant was coded as *Title Act*. If none of the multiple states held interior design legislation the participants were coded as *no legislation*. In addition, if the response did not clarify the state

Table 4.1. Year of Birth Demographics

Year of Birth	Number of Respondents	Percentage
Before 1946 Silent Generation	7	8.9%
1946-1964 Baby Boomers	46	58.2%
1965-1976 Generation X	9	11.4%
1977-1998 Millennials	17	21.5%
After 1998 Generation I	0	0%
	N = 79	100%

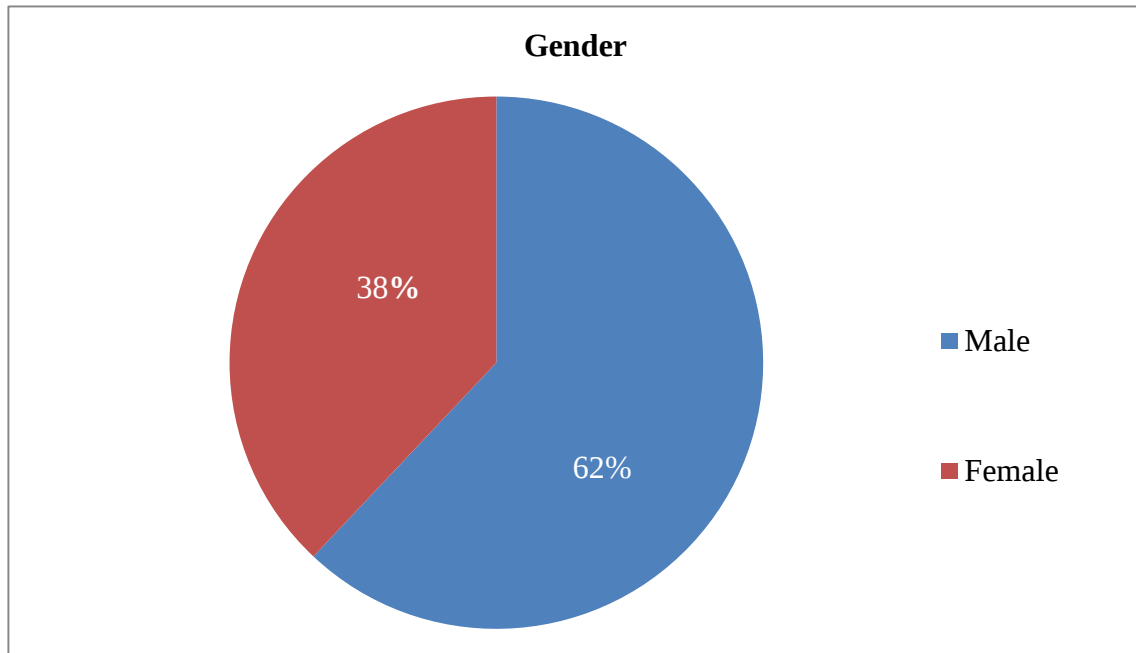


Figure 4.3. Gender Demographics

Table 4.2. Level of Education Demographics

Level of Education	Number of Respondents	Percentage
High School Diploma	8	10.1%
Associate's Degree	7	8.9%
Bachelor's Degree	52	65.8%
Master's Degree	9	11.4%
PhD	3	3.8%
	N = 79	100%

Table 4.3. Profession Demographics

Profession	Number of Respondents	Percentage
Architect	26	32.9%
Engineer	8	10.1%
Builder/Contractor	10	12.7%
Interior Designer	8	10.1%
Building Product Rep / Material Supplier	9	11.4%
Educator	2	2.5%
Student	4	5.1%
Other	11	13.9%
	N = 79	100%

of practice (i.e.: Southeast) the research excluded the response from the study. Of the 79 participants, 25.3% (n = 20) self-reported working in a state with a practice act, 54.4% (n = 43) participants self-reported that they worked in a state with a title act, and 7.6% (n = 6) participants self-reported that they worked in a state with no legislation currently in place. Finally, 12.7% (n = 10) of the participants were excluded from this demographic data analysis (see Table 4.4).

Statistics

At the conclusion of the data collection, the data was transferred from a GoogleDoc® into a Microsoft Excel spreadsheet. The researcher carefully checked the data by referring back to the original data package to avoid error or data misrepresentation. The data was transported into Statistical Package for the Social Sciences (SPSS) 18.0 to complete the final data analysis. A significance level was set using a p-value less than or equal to 0.05. The researcher administered a factor analysis to establish sub-groups, known as *factors*, within the data. A Cronbach's Alpha established reliability. Descriptive statistics were generated for each factor and for the demographic items. This included means, frequencies, and standard deviations. In addition, an analysis of variance (ANOVA) or a multivariate analysis of variance (MANOVA) assessed the magnitude of variation among the participants' perceptions.

Final Instrument Internal Consistency Reliability

Instrument Reliability is the extent that an instrument is able to produce the same results over a period of time (Colton & Covert, 2007). In this study, strong reliability means that members of the CSI Gulf States Region would answer the questions the same in the future. *Internal Consistency* is a commonly used form of reliability that provides information about the consistency among items when only one survey is given. The three ways to measure internal

Table 4.4. States of Respondent's Practice Demographics

Legislation	Number of Respondents		State
Practice Act	20	25.3%	Florida
			Louisiana
			Washington DC
Title Act	43	54.4%	Alabama
			Arkansas
			Georgia
			Illinois
			Kentucky
			Maryland
			Oklahoma
			Tennessee
			Texas
			Virginia
No Legislation	6	7.6%	Massachusetts
			Mississippi
			North Carolina
			Ohio
			Pennsylvania
			South Carolina
			Utah
			Washington
			West Virginia
	10	12.7%	Excluded

consistency include split-half reliability, Kuder-Richardson and a Cronbach's Alpha (Gay & Airasian, 2003). Because the study utilized more than two answer choices in the form of a Likert scale for each item, the Cronbach's alpha was the ideal test to measure internal consistency. A Cronbach's alpha estimates internal consistency reliability by looking at how an item relates to each of the other items and to the instrument as a whole. Internal consistency is found when the items measure similar things (Gay & Airasian, 2003). For this study, a measure of 0.8 constitutes a strong indicator of internal reliability (Colton & Covert, 2007). The results from the Cronbach's alpha on the *Health, Safety, & Welfare in the Built Environment* instrument indicated strong internal consistency ($\alpha=.936$), ($n=34$).

The *Independent Variables* within the study are the variables that can not be changed, but may have an influence on behaviors. These included year of birth, gender, education level, profession and legal registration status of state/s of practice. A *Dependent Variable* is the change in behavior that occurs as a result of the independent variable (Gay & Airasian, 2003). In this study the dependent variables are the individual response items.

A *Factor Analysis* determined the underlying thematic sub-groups or factors. The purpose of a factor analysis is to take a large number of dependent variables and to group them into a manageable number of sub-groups, called factors, to make the data easier to interpret and to analyze (Gay & Airasian, 2003). A scree plot (see Figure 4.3) for the study shows up to five factor structures. Response items, or the dependent variables, from the *Health, Safety, & Welfare in the Built Environment* instrument were assigned to a factor if they loaded an eigenvalue score greater than .4 on only one factor. The factor analysis was unsuccessful because too many response items were double-loaded, which is when an item is loaded above .4

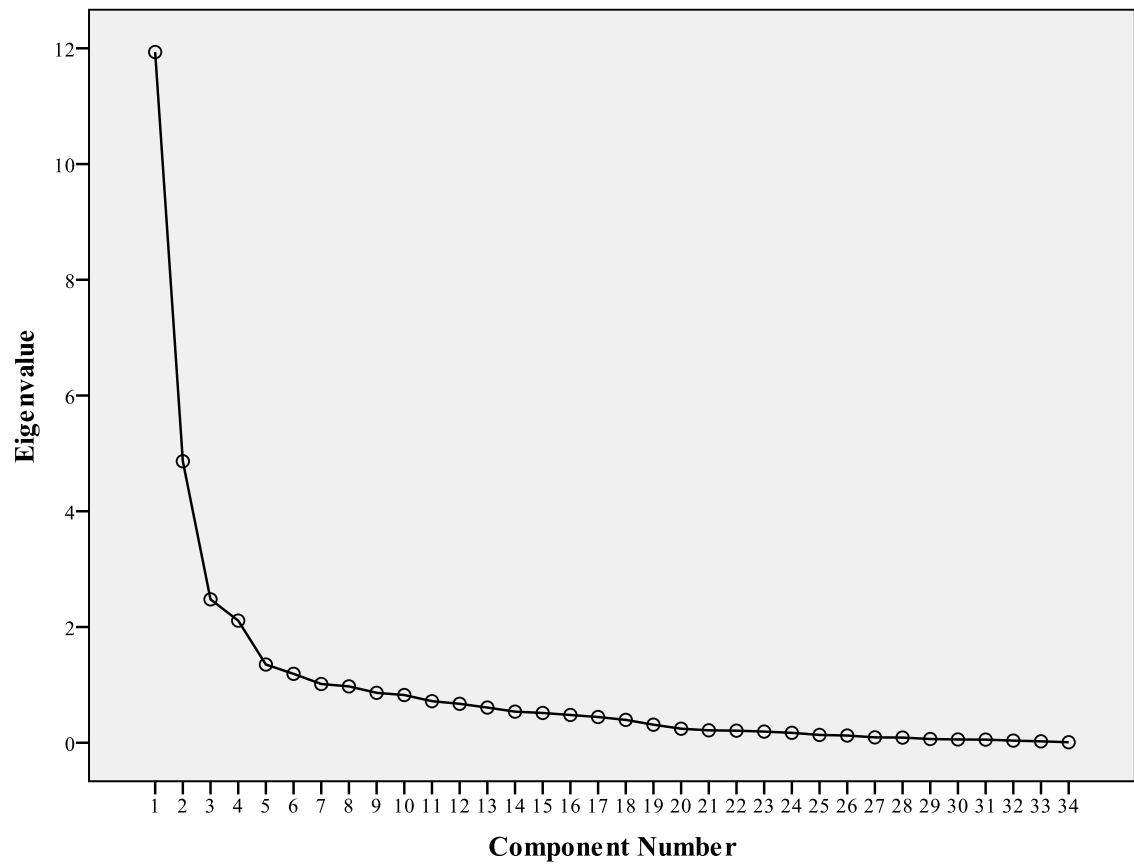


Figure 4.3. Health, Safety, & Welfare in the Built Environment Scree Plot of Eigenvalues

on two factors, making the analysis results unclear.

In an effort to further investigate other factor solutions, the factor analysis was run restricted to four factors. The four-factor structure included 33 response items that met the criteria for factor assignment. One item, # 17 – “rate the importance for interior designers to be certified or licensed”, was double-loaded, therefore it was discarded. The four groups were reviewed for wording and any similarity in meaning with other items. Based on these considerations, the groups were given the following titles: *Codes & Materials*, *Design Strategy*, *Supervision*, and *Mechanical*. These titles best describe the overall factor even though some individual items have meanings that could fit into more than one factor or act as outliers. The factor loads for these four factors along with the Eigenvalue scores for each item may be seen in Table 4.5. Content areas categorized under *Codes & Materials* included: fire/life safety codes, building codes, accessibility codes, universal design, and the impact of materials and finishes towards fire safety, accident prevention, indoor air quality, acoustical control, and sustainability. Content areas categorized under *Design Strategy* included: anthropometrics, color psychology, and impact of color, lighting, and finishes on vision, accident prevention, and means of egress during fire. Content categorized under *Supervision* included the level of supervision by an architect needed when dealing with materials and finishes, lighting plans, sustainability, and codes. Content areas categorized under *Mechanical* included mechanical plans, lighting plans, Heating, Ventilation, & Air Conditioning (HVAC), strategies for injury preventions, and need for a 4-year degree. Reliability measures were also calculated for the four factors using a Cronbach’s alpha: *Codes & Materials* (.936), *Design Strategy* (.846), *Supervision* (.893), and *Mechanical* (.796).

Table 4.5. Item Factor Loads for Health, Safety, & Welfare in the Built Environment.

Item	Content Area		Factor Load			
	Rate the importance for Interior Designers to:		1	2	3	4
28	Codes & Materials	comprehend how materials impact fire safety	.818			
9		know fire/life-safety codes	.765			
21		identify how to control noise when specifying building materials & interior finishes	.744			
29		understand and implement building codes	.729			
20		implement accessibility codes (for wheelchairs & other mobile aids)	.722			
31		identify building materials & interior finishes that impact a person's safety within an environment	.719			
22		know when and where to use fire-rated building materials, finishes and/or furnishings	.712			
33		prevent falls through the selection of interior floor finishes	.670			
7		know how to design for people with disabilities	.624			
10		recognize the impact building materials & finishes have on indoor air quality	.606			
30		implement strategies for using sustainable building materials, finishes, & furnishings	.585			
12		know how to design for people of all ages & abilities	.565			
18		produce strategies for reducing the consumption of natural resources	.552			
6		recognize how building materials & interior finishes impact a person's hearing	.529			
11	Design Strategy	understand how to use colors & lighting to prevent a person from falling		.801		
14		understand the psychological impact of color		.724		
16		take into account a person's height & size when selecting furniture		.724		
31		recognize how design solutions impact a person's vision		.669		
13		be familiar with the average body sizes and measurements of people		.644		
1		be aware of the effects of lighting on a person's health, safety & welfare		.574		
3		select materials for halls & stairways that make it easier for a person to get out of a building that is on fire		.523		
8	Supervision	work under the supervision of an architect when utilizing building materials			.886	
34		work under the supervision of an architect when utilizing fire/life-safety codes			.827	
25		work under the supervision of an architect when utilizing accessibility codes			.818	
27		work under the supervision of an architect when utilizing interior finishes such as paint, fabric, wall coverings and floor coverings			.800	
19		work under the supervision of an architect when designing lighting plans			.733	
4		work under the supervision of an architect when utilizing building codes			.728	
15		work under the supervision of an architect when utilizing sustainability guidelines / green design			.669	
26	Mechanical	place heating & air conditioning vents to improve a person's comfort within a space				.834
23		be able to produce a mechanical plan (showing placement of heating & air conditioning vents)				.788
2		have the ability to produce a lighting plan (showing placement of lights with switches)				.671
24		identify strategies for how to prevent injury and/or death in the built environment				.586
5		earn a 4-year college degree in interior design				.559

Health, Safety, & Welfare in the Built Environment Factor Mean Scores

Data analyses were conducted to investigate the average performance, known as a *Mean Score*, of the four factors, or dependent variables, to determine if significant differences exist between the independent variables (see Table 4.6). The factors for *Codes & Materials* (4.2562) and *Design Strategy* (4.2277) had the highest mean scores. This indicated that the respondents had a higher overall perception toward the need for interior designers to be able to perform skills addressed within these factors. The factors *Supervision* (3.9055) and *Mechanical* (3.6090) were ranked lower, suggesting that participants had a lower overall perception toward the need for interior designers to be able to perform skills addressed within these factors.

Because this study had more than one dependent variable, the research ran a multivariate analysis of variance (MANOVA). The MANOVA had the ability to look at all four factors at one time and provided a clearer understanding of what alterations occurred as the independent variables changed. This test reduces the likelihood of a Type I error occurrence.

If a difference was found within the four factors during the MANOVA, an ANOVA, which tests for significant differences between means of three or more groups (Gay & Airasian, 2003) one at a time, was run to determine which factor means had differences. Once this was determined, the researcher conducted further analysis using a post hoc multiple comparisons procedure, specifically the *Tukey's Honestly Significant Difference* (HSD) test, to determine which means were specifically different.

Research Question #1

RQ1 Is there a significant difference in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the public in the

Table 4.6. Health, Safety, & Welfare in the Built Environment Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Codes and Materials	78	2.57	5.00	4.2565	.58724
Design Strategy	78	1.86	5.00	4.2277	.60677
Supervision	78	2.86	5.00	3.9055	.72233
Mechanical	78	1.40	5.00	3.6090	.82967
Valid N (listwise)	78				

built environment based on the respondent's year of birth/generation and the salient factors?

On the demographics page of the *Health, Safety, & Welfare in the Built Environment* instrument, participants were asked to select their *Year of Birth* by checking one of five categories: *Before 1946*, *1946-1964*, *1965-1976*, *1977-1998*, or *After 1998*. Each category represents a specific independent variable or generational category: the Silent Generation, Baby-Boomers, Generation X, Millennials and Generation I.

The researched conducted a MANOVA analyses to determine if there was a significant difference in the five independent variables self-reported for *Year of Birth* and the salient factors found within the *Health, Safety, & Welfare in the Built Environment* instrument. Due to inconclusive data, the researched decided to rerun the MANOVA using two independent variables: *those born 1964 and before* and *those born 1965 and after* (see Table 4.7). The MANOVA was run on the two categories to see if there would be a significant difference in the overall responses and within the four factors (see Table 4.8). MANOVA analysis detected that there was no significance at a $p=.05$ level in the perceptions of building design professionals toward an interior designer's role in protecting the health, safety, and welfare of the public in the built environment based on the respondent's year of birth. The MANOVA F-value was $F(4,73)=.945$, $p=.443$.

Research Question #2

RQ2 Is there a significant difference in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the public in the built environment based on the respondent's gender and the salient factors?

Table 4.7. Year of Birth Frequencies

		Year of Birth			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1964 and Before	53	67.1	67.1	67.1
	1965 and After	26	32.9	32.9	100.0
	Total	79	100.0	100.0	

Table 4.8. Year of Birth by Four Factors

Dependent Variable	Year of Birth	Mean
Codes & Materials	1964 and Before	4.211
	1965 and After	4.354
Design Strategy	1964 and Before	4.228
	1965 and After	4.227
Supervision	1964 and Before	3.918
	1965 and After	3.880
Mechanical	1964 and Before	3.509
	1965 and After	3.820

The researcher conducted a MANOVA analyses to determine if there was a significant difference in the two independent variables self-reported for *Gender*: male and female (see Table 4.9). MANOVA analysis detected a significant difference in the overall responses and within the four factors (see Table 4.10) at a $p=.05$ level in the perceptions of building design professionals toward an interior designer's role in protecting the health, safety, and welfare of the public in the built environment based on the respondent's gender. The MANOVA F -value was $F(4,73)=4.837, p=.002$. An ANOVA was run on each of the four factors to determine where there were differences based on *Gender*. Differences were found in the following three (3) subscales: Codes & Materials ($p=.003$), Design Strategy ($p=.001$) and Mechanical ($p=.007$). In each of these factors, females scored higher than males, revealing that they place more importance on these items than males did. The factor Supervision showed no difference ($p=.008$).

Research Question #3

RQ3 Is there a significant difference in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the public in the built environment based on the respondent's profession within the building industry and the salient factors?

The researcher conducted a MANOVA analyses to determine if there was a significant difference within the eight independent variables self-reported for *Profession*: *architect, engineer, builder/contractor, interior designer, building product rep/material supplier, educator, student* and *other* (see Table 4.11). MANOVA analysis detected a significant difference in the overall responses and within the four factors (see Table 4.12) at a $p=.05$ level in the perceptions

Table 4.9. Gender Frequencies

Between-Subjects Factors			
		Value Label	N
Gender	1	Male	49
	2	Female	29

Table 4.10. Gender by Four Factors

Dependent Variable	Year of Birth	Mean	P-Value
Codes & Materials	Male	4.105	.003
	Female	4.512	
Design Strategy	Male	4.061	.001
	Female	4.509	
Supervision	Male	4.016	.078
	Female	3.718	
Mechanical	Male	3.416	.007
	Female	3.934	

Table 4.11. Profession Frequencies

		Profession			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Architect	26	32.9	33.3	33.3
	Engineer	8	10.1	10.3	43.6
	Builder/Contractor	10	12.7	12.8	56.4
	Interior Designer	8	10.1	10.3	66.7
	Building Product Rep/Material Supplier	9	11.4	11.5	78.2
	Educator	2	2.5	2.6	80.8
	Student	4	5.1	5.1	85.9
	Other	11	13.9	14.1	100.0
	Total	78	98.7	100.0	
Missing	System	1	1.3		
Total		79	100.0		

Table 4.12. Profession by Four Factors

Profession		
Dependent Variable	Profession	Mean
Codes & Materials	Architect	4.324
	Engineer	3.875
	Builder/Contractor	4.190
	Interior Designer	4.611
	Building Product Rep/Material Supplier	4.066
Design Strategy	Architect	4.315
	Engineer	3.935
	Builder/Contractor	3.762
	Interior Designer	4.732
	Building Product Rep/Material Supplier	4.183
Supervision	Architect	4.108
	Engineer	3.694
	Builder/Contractor	3.940
	Interior Designer	3.179
	Building Product Rep/Material Supplier	3.873
Mechanical	Architect	3.515
	Engineer	3.314
	Builder/Contractor	3.660
	Interior Designer	4.000
	Building Product Rep/Material Supplier	3.533

of building design professionals toward an interior designer's role in protecting the health, safety, and welfare of the public in the built environment based on the respondents' reported profession. The MANOVA F -value was $F(16,159)=2.116$, $p=.010$.

An ANOVA was run on each of the four (4) factors to determine where there were differences based on *Profession*. Differences were found in the following two sub-scales: *Design Strategy* ($p=.009$) and *Supervision* ($p=.029$). No differences were found with the factors *Materials & Codes* ($p=.133$) or *Mechanical* ($p=.485$).

Because there were more than two independent variables, the researcher performed a post hoc analysis on the two factors that showed significant differences on the ANOVA. According to Farris (2001) a *Post-Hoc* test is useful to determine the nature of the differences found between the means. There are several different post-hoc tests to choose from, including Duncan's Multiple Range Test, Fisher's Least Square Difference, Newman Keul's Method, Sheffe's Method and Tukey's Honestly Significant Difference (HSD). The researcher selected a Tukey's HSD for this study because the comparisons involved simple differences between the means; therefore, a Tukey's HSD test is more powerful than the other post-hoc comparisons (Farris, 2001). For the factor titled *Design Strategy*, differences were found between interior designers and builders/contractors ($p=.007$) and between interior designers and engineers ($p=.075$). These tests revealed that interior designers scored higher than builders/contractors or engineers in believing the factor *Design* is important. In addition, a difference was found in the factor *Supervision* between interior designers and architects ($p=.013$). The test revealed that architects scored higher than interior designers in believing that the factor *Supervision* is important.

Research Question #4

RQ4 Is there a significant difference in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the public in the built environment based on the legal registration status of interior designers within the respondent's state/s of practice and the salient factors?

The researcher conducted a MANOVA analyses to determine if there was a significant difference within the three independent variables self-reported for *State/s of Practice: Practice Act, Title Act, or No Licensureship* (see Table 4.13). The MANOVA was run on the three variables to see if there would be a significant difference in the overall responses and within the four factors (see Table 4.14). MANOVA analysis detected no significance difference at a $p=.05$ level in the perceptions of building design professionals toward interior designers' role in protecting the health, safety, and welfare of the public in the built environment based on the respondent's state/s of practice. The MANOVA F -value was $F(4,58)=.552, p=.698$.

Summary of Chapter V

Chapter four presented the analysis and interpretation of data collected during the development of the *Health, Safety, & Welfare in the Built Environment* instrument. The researcher collected data from 79 participants who were members of the CSI Gulf States Region. Descriptive and demographic information about the participants was provided. Factor analysis revealed a maximum of a five factor solution, but further analysis revealed that a four factor solution worked best. Through MANOVA and ANOVA testing of the Likert-type item responses, significant differences were found within two of the research questions. Differences were found in Research Question 2 regarding *Gender* and in Research Question 3 regarding

Table 4.13. State/s of Practice Frequencies

In what state/s do you practice?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Licensureship	6	7.6	8.7	8.7
	Title Acts	43	54.4	62.3	71.0
	Practice Acts	20	25.3	29.0	100.0
	Total	69	87.3	100.0	
Missing	System	10	12.7		
Total		79	100.0		

Table 4.14. State/s of Profession by Four Factors

State/s of Profession		
Dependent Variable	State/s of Profession	Mean
Codes & Materials	Title Act	4.308
	Practice Act	4.163
Design Strategy	Title Act	4.265
	Practice Act	4.144
Supervision	Title Act	3.990
	Practice Act	3.786
Mechanical	Title Act	3.679
	Practice Act	3.420

Profession. A post hoc Tukey's HSD test was used when needed to determine more specific differences. These differences will be discussed in Chapter V.

CHAPTER V

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction to Chapter V

Chapter V summarizes the findings, conclusions, and recommendations resulting from the inventory of perceptual responses given by building industry professionals who are members of the Construction Specification Institute (CSI) Gulf States region to the *Health, Safety, & Welfare in the Built Environment* instrument. The analysis used descriptive statistics, factor analysis, MANOVA, ANOVA, and, when needed, the Tukey's HSD.

The primary purpose of the research study was to develop a valid, objective, and reliable survey instrument to assess perceptions toward an interior designer's impact on the health, safety, and welfare of the public. The researcher created the *Health, Safety, & Welfare in the Built Environment* instrument for the purpose.

The secondary purpose of the study was to establish an initial profile of perceptions within building industry professionals toward an interior designer's ability to impact the health, safety, and welfare of the built environment, identification of the salient factors within those perceptions, and determination of the level of these factors through a factor analysis. Respondents, numbering 79 out of a possible 206, accounting for 38.3%, voluntarily and anonymously completed the survey. Descriptive and inferential statistical analyses were performed. A factor analysis was administered to establish sub-groups, known as factors, within the data. Descriptive statistics were generated for each factor and for the demographic items. This included means, frequencies, and standard deviations. In addition, an analysis of variance (ANOVA) or a multivariate analysis of variance (MANOVA) was performed on the data to

assess the magnitude of variation among the participants' perceptions. Statistical results sometimes indicated a need for further analysis, requiring the post-hoc measurements using the Tukey's HSD.

Findings

Research Question #1

1. The data analysis for this study revealed no significant difference in perceptions towards an interior designer's ability to protect the health, safety, and welfare of the public amongst CSI Gulf States Region members regardless of the respondent's year of birth or generation. This may be due to the uneven distribution of year of birth/generation. Of the seventy-nine (79) participants, 8.9% or seven (7) reported being born before 1946, 58.2% or forty-six (46) reported being born between 1946 and 1964, 11.4% or nine (9) reported being born between 1965 and 1976, and 21.5% or seventeen (17) reported being born between 1977 and 1998. More data collection might have yielded different results.

Research Question #2

2. Female members (n = 30) of the CSI Gulf States Region self-reported higher overall perceptions toward the factors *Codes & Materials*, *Design Strategy* and *Mechanical* than that of their male (n = 49) counterparts.

Research Question #3

3. When analyzing differences amongst professions within the CSI Gulf States Region, interior designers scored higher than builders/contractors and engineers on their responses to the items in the *Design Strategy* factor.

4. When analyzing differences amongst professions within the CSI Gulf States Region, architects scored higher than interior designers on the factor *Supervision*.

Research Question # 4

5. CSI Gulf States Region members self-reported no significant difference in perceptions towards an interior designer's ability to protect the health, safety, and welfare of the public regardless of the respondent's state of practice. .

Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. Members of the building industry, as represented by the CSI Gulf States Region, perceived a high value toward the need for interior designers to understand and demonstrate skills that protect the health, safety, and welfare of the public.

Previous research does not support this conclusion Existing literature suggest that members of the building industry outside of interior design believe that interior designers have little to no impact on the public's health, safety, and welfare (Biasi, 2008; Carpenter, 2008b; Carpenter and Ross, 2008; CLCID, 2008; Ewing, 2008; IDFC, 2008; IDPC, 2008; Martin, 2008; Nagorsky, 2008; NKBA, 2008b; Ross, 2008; White, 2009).
2. Female members of the building industry, as represented by the CSI Gulf States Region, put more value in the need for interior designers to have higher understanding and skills toward protecting the health, safety, and welfare of the public than their male counterparts. Previous research supports this conclusion (Glick, 1991; Oswald, 2003).

3. Interior designers within the building industry, as represented by those in the CSI Gulf States Region, place more value in believing that interior designers should understand and demonstrate skills related to anthropometrics, color psychology, the impact of color, lighting and finishes on a person's vision, accident prevention and means of egress during fire than builders/contractors or engineers perceive to be necessary for interior designers to understand or demonstrate. Previous research supports this conclusion. Existing literature suggest that interior designers strongly believe that to practice interior design, a person must be education and tested on knowledge that supports protecting the health, safety and welfare of the public (ASID, 2011; Binggeli, 2007; Dickinson, Anthony & Marsden, 2009, Guerin & Thompon, 2004, Hamilton, 2011; Harmon-Vaughan, 2002; Jensen, 2001; Jones, & Allen, 2009; Kilmer & Kilmer, 1992; Koffel, 1999; Martin, 2008; NCIDQ, 2004; Nieminen, 2010; Piotrowski, 2008; Thompson, 2007).
4. Architects within the building industry, as represented by those in the CSI Gulf States Region, perceive a higher need for interior designers to be supervised by an architect than interior designers perceive to be needed. Previous research supports this conclusion (Friedrichs, 2002; Giattina, 2000; Guillot, 2005; Ross, 2008; Steffian, 2000; Wesolowski, 2008).
5. There is no significant difference in the perceived value for interior designers to have an understanding and demonstration of skills that have a positive impact on the health, safety, and welfare of the public amongst CSI Gulf States Region

members regardless of the state where the respondent works. Previous research supports this conclusion (Carpenter, 2008).

Recommendations

Based on the findings and conclusions gained from this study, the following recommendations are offered:

1. Results of this research, and of future studies, should be used to target educational movements as to the actual role that interior designers play toward protecting the health, safety, and welfare of the public.
2. A follow up study should be performed with members of the CSI Gulf States Region using the *Health, Safety, & Welfare in the Built Environment* instrument to measure differences in perceptions over time toward an interior designers impact on health, safety, and welfare of the public.
3. The *Health, Safety, & Welfare in the Built Environment* instrument can be used on additional targeted populations that have an impact on interior design legislation. These populations include, but are not limited to members of the American Institute of Architect (AIA), members of the American Society of Interior Designers (ASID) and the International Interior Design Association (IIDA), members of the National Kitchen and Bath Association (NKBA), members of the Interior Design Educators Council (IDEC), and to the general public.

Summary of Chapter V

Chapter V discussed the findings, conclusions, and recommendations generated by the data collected from CSI Gulf States Region members using the *Health, Safety, & Welfare in the*

Built Environment instrument. The *Health, Safety, & Welfare in the Built Environment* instrument was shown to be reliable through a Cronbach's alpha. A factor analysis revealed 4 distinct factors within the gathered data. Significant differences were found within the Gender and Profession variables. It is recommended to expand the research nationally and to gather data from additional professional organizations within the building industry. Chapter VI will review the study in retrospect.

CHAPTER VI

THE STUDY IN RETROSPECT

Introduction to Chapter VI

Chapter VI discusses the study in retrospect. Observations about the study, implications for interior designers and implications for interior design educators are discussed.

Observations about the Study

It was important to me that this study not just be about my getting a dissertation, but be a tool that can be used repeatedly on multiple populations to gather data that will progress the profession of interior design forward, and thereby put into place policies to protect the public's wellbeing. Understanding perceptions of all those who impact this process is needed (Marshall-Baker, 2001). When the literature review revealed no instrument to collect such data, the goal of my proposal was to create one. To meet this goal the instrument had to be worded and formatted in a way that it could be used on multiple populations, ranging from those within the building industry to those of the general public. For this reason, when the instrument was piloted, it was done so on a sample that included both people within the building industry and from the general public. This study successfully revealed that the *Health, Safety, and Welfare in the Built Environment* instrument is reliable and can be used to this end.

A secondary purpose of this study was to establish an initial profile of perceptions within building industry professionals toward an interior designer's ability to impact the health, safety, and welfare of the built environment, identification of the salient factors within those perceptions, and determination of the level of these factors through a factor analysis. In addition, the study also ascertained if there are differences in factors as determined by the participants'

demographic backgrounds. Though the collected data revealed interesting findings, potential statistical significance of the outcomes were reduced by the sample response rate. This was impacted by the limitations of the study, specifically the lack of access to a national population and to a properly functioning link to instrument.

Implications for Interior Designers

The initial assessment provided by the study enables Interior Designers in the Southeast United States to review and gain an understanding of the perceptions of members of the building industry, as represented by members of the CSI Gulf States region, toward an interior designer's ability to protect the health, safety and welfare of the public. The distribution of the baseline assessment provided by the *Health, Safety, and Welfare in the Built Environment* instrument can serve as a starting point for strategic discussions directed toward educational promotions.

According to the preliminary data, strategies should be created, specifically directed toward men, to help them understand that it is in the best interest of the public for interior designers to:

demonstrate knowledge of codes, universal design, anthropometrics, color psychology, and the impact of materials, finishes, and lighting toward fire safety, injury prevention, indoor air quality, acoustical control, and sustainability. The baseline information gathered by the *Health, Safety, and Welfare in the Built Environment* instrument revealed that these strategies should be directed toward those in the building/contracting, engineering and architecture professions.

In addition, as a state prepares to undergo interior design legislation, professional interior designers of that state may find this instrument useful in gathering perceptual data that will allow strategies to be created and targeted to where change is most needed. This information will also be useful when allocating resources targeted toward these educational movements.

Future implementation of the survey instrument might also allow professional interior designers to pretest and posttest a population to measure the success of an educational movement. The results of these studies will be a benefit to all involved.

Implications for Interior Design Educators

While most interior design curriculum teaches students about interior design legislative title and practice acts, the literature review for this study revealed a need for programs to teach their students to be advocates for the profession of interior design. It is important for programs preparing future professional interior designers to instill the skills needed to educate others, (i.e.: friends, family, clients, related building professionals, legislators), as to what it is they do and how what they do impacts others. Real-world statistics and case studies related to injuries and illness caused by inappropriate use of building materials/finishes and/or design layouts need to be utilized by interior design students as tools for advocating. Interior design students need to learn to verbalize how their work psychologically and physiologically affects the end-user and, therefore, impacts the health, safety, and welfare of the public (Sullivan, 2005; Anderson, Honey, & Dudek, 2007).

Summary of Chapter VI

I found that the overall study was very successful. A valid, reliable, and objective instrument was successfully created to gather perceptions toward an interior designer's ability to protect the health, safety, and welfare of the public. Preliminary data collection and analysis revealed four distinct factors within the health, safety, and welfare specifications. The findings can be generalized to professionals within the building industry within the southeastern United States. Strategies from this study, as well as from future studies using this instrument, can be

used to gather the data needed to change or reinforce perceptions of the interior design profession as a means to protect the health, safety, and welfare of the public.

REFERENCES

- 1980 MGM Grand Hotel fire - 30 years later. (2010). *CommandSafety.com: Operational Excellence for Today's Evolving Fireground*. Retrieved April 7, 2012, from <http://commandsafety.com/2010/11/1980-mgm-grand-hotel-fire-thirty-years-ago/>
- Abbott, A. (1988). *The system of professions: An essay on the division of expert labor*. Chicago: University of Chicago Press.
- Albarracin, D., Johnson, B. T., Zanna, M. P., & Kumkale, G. T. (2005). Attitudes: Introduction and scope. In D. Albarracin, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 3-20). Mahwah, N.J.: Lawrence Erlbaum Associates
- Allen, P., Jones, L., & Stimpson, M. (2004). *Beginnings of interior environments*. Upper Saddle River, NJ: Pearson/Prentice Hall.
- American Society of Interior Designers (ASID). (2005). *Consumer use of design services*. Washington, DC: American Society of Interior Designers.
- American Society of Interior Designers (ASID). (2011). *Definition of interior design*. Retrieved from <http://www.asid.org/NR/rdonlyres/9A223396-B6C2-42DE-87C2-19EDCBDEA718/0/DefID.pdf>
- American Society of Interior Designers (ASID). (2012). *State licensing regulation*. Retrieved from <http://www.asid.org/legislation/state/>
- Anderson, B. G., Honey, P. L., & Dudek, M. T. (2007). Interior designer's social compact: Key to the quest for professional status. *Journal of Interior Design*, 33(2), v.-xiii. doi: 10.1111/j.1939-1668.2007.tb00313.x
- Asay, N., & Patton, M. (2010). *Careers in interior design*. New York, NY: Fairchild Books.

- Attitude. (2012). In *Oxford University Press dictionaries*. Retrieved from <http://oxforddictionaries.com/definition/attitude?q=attitude>
- Author Unknown (2008, April 19). ASID members oppose ASID legislation efforts and applaud efforts by NKBA to oppose legislation [*Interior Design Freedom Blog*]. Retrieved from <http://www.interiordesignfreedom.org/blog.html>
- Bailin, J. (2010). Ergonomics & computer injury: FAQs. *Network Science – NetSci*. Retrieved from <http://www.netsci.org/Science/Special/feature01.html>
- Ballard, M. D. (1994, August). *Development of a valid and reliable first aid and emergency care test for college and university students* (Unpublished doctoral dissertation). The University of Tennessee, Knoxville Tennessee.
- Baltimore, A. (2005). Design in the service of people. *Interior & Sources*, 56-57.
- Banister, E., Allen, M., Fadel, S., Bhakthan, G., & Howard, D. (1988). *Contemporary health issues*. Boston: Jones and Bartlett.
- Banks, J.A., & Banks, C. A. (2003). *Handbook of research on multicultural education*. New York: John Wiley and Sons.
- Belief. (2012). In *Oxford University Press dictionaries*. Retrieved from <http://oxforddictionaries.com/definition/belief?q=belief>
- Biasi, G. (2008, August 27). NARI joins with the NKBA to oppose all forms of interior design title and practice acts [*Interior Design Freedom Blog*]. Retrieved from www.interiordesignprotection.org/blog.html
- Binggeli, C. (2007). *Interior design: A survey*. Hoboken, NJ: John Wiley & Sons.

Burns, C. (1997). An approach to alignment: Professional education and professional education in architecture. *Practices* 5/6.

California Legislative Coalition for Interior Design (CLCID). (2008). Stop interior design legislation and licensing in California – oppose California bill SB 1312-Interior Design Practice Act [Interior Design Freedom Blog]. Retrieved from www.interiordesignfreedom.com/blog.html

Carpenter, D. M. (2007). *Designing cartels: How industry insiders cut out competition*. Manuscript printed by the Institute for Justice. Arlington, VA: Institute for Justice.

Carpenter, D. M. (2008). *Designed to mislead: How industry insiders mislead the public about the need for interior design regulation*. Retrieved from http://www.ij.org/index.php?option=com_content&task=view&id=2377&Itemid=249

Carpenter, D. M., & Ross, J. K. (2008). Designing cartels through censorship. *Regulation*, 31, 14–18.

Clark County Fire Department. (1980). *MGM fire investigation report*. Retrieved from: http://fire.co.clark.nv.us/%28S%28zxicxn23ar50xxx5uljvwgf2%29%29/Files/pdfs/MGM_FIRE.pdf

Coleman, C. (2002). History of the profession. In C. Coleman (Ed.). *Interior Design Handbook of professional practice* (pp. 26-47). New York, NY: McGraw-Hill.

Colton, D., & Covert, R. (2007). *Designing and constructing instruments for social research and evaluation*. San Francisco, CA: Josse-Bass.

Construction Specification Institute (CSI). (2010). *About CSI*. Retrieved from <http://www.csinet.org/Functional-Menu-Category/About-CSI.aspx>

- Council for Interior Design Accreditation (CIDA). (2010). *Why?* Retrieved from <http://accredit-id.org/about/why/>
- Couper, M. P. (2008). *Designing effective web surveys*. Cambridge, UK: Cambridge University Press.
- Cox, P. R. (2008). *Demography*. Cambridge: Cambridge University Press.
- Design TV: What's hot and what's not. (2005). *ICON*. American Society of Interior Designers, 303, 1.
- Dickinson, J. I., Anthony, L. & Marsden, J. P. (2009). Faculty perceptions regarding research: Are we on the right track? *Journal of Interior Design*, 35(1), 1-14. doi: 10.1111/j.1939-1668.2009.01024.x
- Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method*. New York, NY: John Wiley & Sons.
- Ewing, B. (2008, September 19). Institute of Justice files lawsuit challenging Connecticut's interior design title act [Web log post]. Retrieved from <http://.interiordesignfreedom.org/blog.html>
- Faye, E. E., & Stuen, C. S. (Eds.). (1992). *The aging eye and low vision*. New York, NY: The Lighthouse Inc.
- Farris, M. S. (2001). *Factors affecting the transfer of related training in a trade union apprenticeship program* (Unpublished doctoral dissertation). The University of Tennessee, Knoxville Tennessee.
- Fineman, M. (2006). Death of a profession. *Kitchen & Bath Business*, 53(8), 30-32. Retrieved from <http://search.proquest.com/docview/205604681?accountid=14767>

- Fink, A. (2003). *The survey handbook*. London: Sage Publications.
- Freidson, E. (2001). *Professionalism: The third logic*. Chicago, IL: The University of Chicago Press.
- Friedrichs, E. C. (2002). Growing a profession. In C. Coleman (Ed.). *Interior Design Handbook of professional practice* (pp. 20-25). New York, NY: McGraw-Hill.
- Garson, G. D. (2008). *Reliability analysis*. Retrieved from <http://phdedu.tistory.com/103>
- Gay, L. R., & Airasian, P. (2003). *Educational research: Competencies for analysis and applications* (7th Ed.). New York, NY: Pearson Education.
- Giattina, J. (2000). *An address on interior design legislation*. NCARB Annual Meeting. Retrieved from <http://www.ncarb.org/newsclips/presaddress.html>
- Glynn, C. J., Herbst, S., O'Keefe, G. J., Shapiro, R. Y., & Lindeman, M. (2004). *Public opinion*. Boulder, CO: Westview Press.
- Google®. (2010). *Privacy policy*. From <http://www.google.com/privacy/privacy-policy.html>
- Google®. (2011). *Google docs: Online documents with real-time collaboration*. *Google Apps for Business*. Retrieved from <http://www.google.com/apps/intl/en/business/docs.html>
- Guerin, D. A., & Martin, C. S. (2004). The career cycle approach to defining the interior design profession's body of knowledge. *Journal of Interior Design*, 30(1), 1-22.
doi: 10.1111/j.1939-1668.2004.tb00396.x
- Guerin, D. A., & Thompson, J. A. (2004). Interior design education in the 21st century: An educational transformation. *Journal of Interior Design*, 30(2), 1-12.
- Guillot, F. M. (2005, June 16). Interior design and the public interest. [Online forum comment]. Retrieved from <http://www.contractdesign.com/contract/ls/Archived-Article->

[1403.shtml?articletitle=ANSWER%20OF%20THE%20MONTH-NONE%20It%20bgt%20Interior%20Design%20and%20the%20Public%20Interest%20It%20bgt%20589.xml](#)

Gulf States Region. (2011). *Construction Specification Institute*. Retrieved from

http://new.csinet.org/csi_services/reginfo.aspx?regcode=gs

Hall, M. E. (2006). *Measuring the safety climate of steel mini-mill workers using an instrument validated by structural equation modeling* (Unpublished doctoral dissertation). The University of Tennessee, Knoxville Tennessee.

Hamilton, E. M. (2011). *Measuring an experience: Mindful awareness in the built environment*. (Unpublished master thesis.) The University of Wisconsin, Madison Wisconsin.

Harmon-Vaughan, B. (2002). The regulatory organization. In C. Coleman (Ed). *Interior Design Handbook of professional practice* (pp. 26-47). New York: McGraw-Hill.

Harwood, B. (2006). The 1995 hypothesis: + the 2015 hypothesis. *Journal of Interior Design*, 31(2), xi-xxii.

Havenhand, L. (2004). A view from the margin: Interior design. *Design Issues*, 20(4), 32–42.

Hultin, M., & Szulkin, R. (1999). Wages and unequal access to organizational power: An empirical test of gender discrimination. *Administration Science Quarterly*, 44, 453-472.

Iarossi, G. (2006). *The power of survey design: A user's guide for managing surveys, interpreting results, and influencing respondents*. Washington D. C.: The World Bank.

Interior Design Freedom Council (IDFC). (2008, August 10). Institute for Justice publishes new white paper exposing the interior design cartel [Interior Design Freedom Blog].

Retrieved from www.interiordesignfreedom.org/blog.html

- Interior Design Protection Council (IDPC). (2008). *Rebuttal to ASID message guide*. Retrieved from <http://www.IDPCinfo.org>
- International Interior Design Association (IIDA). (2012). *Licensing & Regulation*. Retrieved from <http://www.iida.org/content.cfm/state-licensing-guide>
- Ivy, R. (2000). Keys to the kingdom. *Architectural Record*, 188(9), 17.
- Jensen, C. S. (2001). NCIDQ news: *Who will win the war? The battle for equality in the professional world rages on*. Retrieved from http://www.isdesignet.com/Magazine/J_A'01/health.html
- Johnson, P. A. (2010). *Mammography screening practices and health beliefs of women in East Tennessee*. (Unpublished doctoral dissertation). The University of Tennessee, Knoxville Tennessee.
- Jones, L. M., & Allen, P. S. (2009). *Beginnings of interior environments*. Upper Saddle River, NJ: Pearson Education, Inc.
- Kilmer, R., & Kilmer, W. O. (1992) *Designing interiors*. New York, NY: Harcourt, Brace, Jovanovich College Publishers.
- Kimmel, M., & Aronson, A. (2004). *Men and masculinities: A social, cultural, and historical encyclopedia*. Santa Barbara, CA: ABC-CLIO.
- Koffel, W. (1999). What is a registered interior designer: *Southern Building*, 6(2), 4-6.
- Lipton, J. P., O'Connor, M., Terry, C., & Bellamy, E. (1991). Neutral job titles and occupational stereotypes: When legal and psychological realities conflict. *Journal of Psychology*, 125(2), 129–151.

- Marshall-Baker, A. (2001). Distinction of a profession: Legislative issues regarding interior design. *Proceedings of the 2001 South/East Regional Conference of the Interior Design Educators Council*.
- Marshall-Baker, A. (2004). A new paradigm: Getting the public to value interior design may require a shift in the way we, as both human beings and interior designers, view our place in and our use of the world. *Interior & Sources*, 11(10), 66-67.
- Martin, C. S. (1999). *The public's opinion of architecture, interior decoration, and interior design*. (Unpublished doctoral dissertation). The University of Minnesota, Minneapolis, Minnesota.
- Martin, C. S. (2004). TV design myths. *Midwest Home & Garden*, 159–163.
- Martin, C. S. (2008). Rebuttal of the report by the Institute for Justice entitled Designing cartels: How industry insiders cut out competition. *Journal of Interior Design*, 33(3). doi: 10.1111/j.1939-1668.2007.tb00548.x
- Martin, C. S., Guerin, D. A., & Ginthner, D. A. (2000). Professionalization as defined by Abbott: Internal actions taken by architecture, interior decoration, and interior design. *Proceedings of Interior Design Educator's Council 2000 Conference*.
- Martin, C. S., & Guerin, D. A. (2006). *The interior design profession's body of knowledge: 2005 edition*. Retrieved from: <http://www.careersininteriordesign.com/idbok.pdf>
- Massey, A. (2008). *Interior design since 1900* (3rd Ed.). London, England: Thames & Hudson.
- Matthews, C., & Hill, C. (2007). Sexism, femininity, and the language of interior design. *Proceedings of the 2007 Interior Design Educators Council International Conference*.

- Matthews, C., & Hill, C. (2011). Gay until proven straight: Perceptions of male interior designers from male practitioner and student perspectives. *Journal of Interior Design*, 36(3), 15–34. doi: 10.1111/j.1939-1668.2011.01060.x
- McKeown, T. (1976). *The modern rise of population*, New York, NY: Academic Press.
- Moody, D. & McClain, A. (2005). Simulations: Understandings how design choices are perceived by the aging eye. *Interior Design Educators Council 2005 International Conference Proceedings*.
- Moody, D. & Petty, G. (2007, October). *Safety prevention through sight simulation: Understand how the aging eye perceives interior finishes*. Poster session presented at the National Safety Council Conference, Chicago, IL.
- Moy, P., & Hussain, M. M., (2011). Media influences on political trust and engagement. In R. Y Shapiro & L. R. Jacobs (Eds). *The Oxford handbook of American public opinion and the media* (pp. 220-235). Oxford University Press, USA.
- Nagorsky, E. S. (2008). Lawful enterprise. *Kitchen & Bath Business*, 56(6), 22-24. Retrieved from <http://www.kbbonline.com>
- Namboodiri, K. (1991). *Demographic analysis: A stochastic approach*. New York, NY: Academic Press, Inc.
- Nardi, P. M. (2003). *Doing survey research: A guide to quantitative methods*. New York, NY: Pearson Education, Inc.
- National Council of Architectural Registration Board (NCARB). (2000). *Interior designers suffer three setbacks*. Retrieved from <http://www.ncarb.org/newsclips/nov00.html>

- National Council for Interior Design Qualification (NCIDQ). (2004). *Definition of interior design*. Retrieved from <http://ncidq.org/AboutUs/AboutInteriorDesign/DefinitionofInteriorDesign.aspx>
- National Kitchen and Bath Association (NKBA). (2008a). *National Kitchen & Bath Association opposes restrictive interior design legislation*. Retrieved from http://www.nkba.org/industry_legislation.aspx
- National Kitchen & Bath Association (NKBA). (2008b). *Position statement*. Retrieved from <http://www.iopfda.org>
- Neutens, J., & Rubinson, L. (2002). *Research techniques for the health sciences* (3rd Ed.). New York, NY: Pearson Education.
- Nielson, K. J., & Taylor, D. A. (2002). *Interiors: An introduction*. New York, NY: McGraw-Hill.
- Nieminen, R. (2010). Designing for the people. *Interior & Sources*, 8.
- Null, R. L., & Cherry, K. F. (1998). *Universal design: Creative solutions for ADA compliance*. Belmont, CA: Professional Publications, Inc.
- Null, R. (2003). Commentary on Universal Design. *Housing & Society*, 30(2) 109-118.
- Occupational Safety & Health Administration (OSHA), (2012). *OSHA technical manual*. Section III: Chapter 2. Retrieved from http://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_2.html
- Opinion. (2012). In *Oxford University Press dictionaries*. Retrieved from <http://oxforddictionaries.com/definition/opinion?q=opinion>

- Oswald, P. A. (2003). Sex-typing and prestige ratings of occupations as indices of occupational stereotypes. *Perceptual and Motor Skills*, 97(3), 953–959.
- Perception. (2011a). In *Cambridge dictionaries online*. Retrieved from http://dictionary.cambridge.org/dictionary/british/perception_1?q=perception
- Perception. (2011b). In *Oxford University Press dictionaries*. Retrieved from <http://oxforddictionaries.com/definition/perception?view=uk>
- Peterson, M. J. (1996). Universal bathroom design: Design that adapts to people. Hackettstown, NJ: The National Kitchen & Bath Association.
- Pile, J. F. (2007). *Interior design*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Piotrowski, C. M. (2008). *Professional practice for interior designers*. Hoboken, NJ: John Wiley & Sons.
- Profession. (2011) In *Cambridge dictionaries online*. Retrieved from http://dictionary.cambridge.org/dictionary/british/profession_1?q=profession
- Ross, J. O. (2008). Safeguarding the public's health, safety and well-being. Retrieved from <http://www.aiamaine.org/news/news.php?id=76>
- Sawasy, M. E. (2009a). Why does the interior design profession need to be legislated? An architect's view. *Interiors & Sources*, 16(1), 58. Retrieved from <http://www.interiorsandsources.com/ArticleDetails/tabid/3339/ArticleID/6900/Default.aspx#top>
- Sawasy, M. E. (2009b). A sign of the times. *Interiors & Sources*, 16(3), 58. Retrieved from <http://www.interiorsandsources.com/ArticleDetails/tabid/3339/ArticleID/8289/Default.aspx#top>

- Schober, M. F., & Conrad, F. G. (2008). Survey interview and new communication technologies. In F.G. Conrad & M. E. Schober (Eds). *Envisioning the survey interview of the future* (pp. 1-30). Hoboken, N.J.: Wiley Publishing.
- Shapiro, R. Y., & Jacobs, L. R. (2011). *American public opinion and the media*. Oxford: Oxford University Press.
- Significance. (2005). In E. McKean (Ed.), *The new Oxford American dictionary* (11th ed.) New York, NY: Oxford University.
- Siegler, M., & Epstein, R. (2003). Action on social determinants of health, *Perspectives in Biology and Medicine*, 46, S1-S10.
- Slip and fall accident stats. (2012). Retrieved January 1, 2012, from <http://www.lawfirms.com/resources/personal-injury/slip-and-fall-accident/slip-and-fall-accidents.htm>
- Slotkis, S. J. (2006). *Foundations of interior design*. New York: Fairchild Publications.
- State legislatures internet links. (2012). Retrieved February 26, 2012, from <http://www.ncsl.org/about-us/ncslservice/state-legislative-websites-directory.aspx>
- Steffian, R. (2000). A report from the president. *Direct Connection*, 3(2), 2-3.
- Steinmetz, D. (2009). Filling the HSW vessel. *Interiors & Source*, 16(1), 59-60.
- Thielbar, G. & Feldman, S. D. (1969). Occupational stereotype and prestige. *Social Forces*, 48(1), 1-49.
- Thomas, M. A. (2011). Transcending limits. *Interiors & Sources*, 126.
- Thompson, J. A. (2007). Position paper overview. *Journal of Interior Design*, 33(2), 1. doi: 10.1111/j.1939-1668.2007.tb00314.x

- Tuan, Y. (1990). *Topophilia: A study of environmental perception, attitude, and values*. New York: NY: Columbia University Press.
- Turpin, J. (2007). The history of women in interior design: A review of the literature. *Journal of Interior Design*, 33(1), 1–15. doi: 10.1111/j.1939-1668.2007.tb00418.x
- Waxman, L. K., & Clemons, S. (2007). Student perceptions: Debunking television's portrayal of interior design. *Journal of Interior Design*, 32(2), v–xi. doi: 10.1111/j.1939-1668.2006.tb00308.x
- Wesolowski, H. (2008, January 31). Interior design lobby seeks licensure in several states. [Web log post]. Retrieved from http://blog.aia.org/angle/2008/01/interior_design_lobby_seeks_li.html
- White, A. C. (2009). What's in a name? Interior design and/or interior architecture: The discussion continues. *Journal of Interior Design*, 35(1), x–xviii. doi: 10.1111/j.1939-1668.2009.01023.x
- White, A. C., & Dickson, A. W. (1993). Who's keeping the fire? An analysis of who's being published in a major interior design periodical. *Journal of Interior Design Education and Research*, 18(1,2), 87–94.
- White, A. C., & Rabun, J. (2008). Under fire from within: Interior design's continuing struggle for professional identity. *Proceedings of the 2008 Interior Design Educators Council International Conference*
- Whited, L. (2009). Commentary: Occupation? Planet giver. *Interiors and Sources*, xx, pp. Retrieved from <http://www.interiorsandsources.com/ArticleDetails/tabid/3339/ArticleID/8164/Default.aspx#top#top>

- Whitfield, T. W. A., & Smith, G. (2003) The social standing of the design professions: An intercultural comparison. *Journal of Intercultural Studies*, 24(2), 115-135.
- Whitemyer, D. (2006). *Practice (and title) makes perfect*. Retrieved from <http://www.iida.org/content.cfm/practice-and-title-makes-perfect>
- Whitney, M. C. (2009). Interior design: A unique and independent profession. *Proceedings of the 2009 Interior Design Educators Council International Conference*
- Williams, C. (1995). *Still a man's world: Men who do women's work*. Berkeley, CA: University of California Press.
- Winston, K. E. (2010). *Unintentional injury content assessment in undergraduate personal health and wellness courses* (Unpublished doctoral dissertation). The University of Tennessee, Knoxville Tennessee.
- Wood-Nartker, B. J., Sepanski, J., McCrady, J., & Gligor, A. (2007). College students' perceptions of sexual orientation and gender given job descriptions and titles for interior decoration, interior design, and architecture. *Perceptual and Motor Skills*, 104, 1025-1026.
- Wright, R. (2006). The scene and the unseen: Form plays an equal role to function in the design of successful spaces. *Interiors & Sources*, 52-53.

Appendix A.
Significance Questionnaire

Hi,

I am requesting your input due to the leadership role you play in the profession of Interior Design. I am currently researching perceptions towards an interior designer's ability to protect the health, safety and welfare of the public, using the components found in the Interior Design Body of Knowledge.

Please take just a moment to supply feedback to the following questions. It should take 5-10 minutes of your time.

- 1) Would gathering data on how architects perceive an interior designer's ability to affect health, safety and welfare help to advance the profession?
☐ yes ☐ no ☐ uncertain
- 2) Would gathering data on how the public perceives an interior designer's ability to affect health, safety and welfare help to advance the profession?
☐ yes ☐ no ☐ uncertain
- 3) Would gathering data on how registered interior designers perceive an interior designer's ability to affect health, safety and welfare help to advance the profession?
☐ yes ☐ no ☐ uncertain
- 4) Would gathering data on how un-certified "interior designers" perceive an interior designer's ability to affect health, safety and welfare help to advance the profession?
☐ yes ☐ no ☐ uncertain
- 5) How could this data be utilized to advance the profession?
- 6) How could this data be used to further protect the public?
- 7) Would this information be beneficial to future evaluation and planning for:
CIDA? ☐ yes ☐ no ☐ uncertain
NCIDQ? ☐ yes ☐ no ☐ uncertain
Legislative Efforts? ☐ yes ☐ no ☐ uncertain

If so, how?

Thank you so much for your participation.
Please email response to Dana-Moody@utc.edu

Appendix B
Leaders in Interior Design
Sample

Leaders in Interior Design Sample					
	Leadership Role	Name	Participated in Questionnaire	Responded – Did not Participate in Questionnaire	No Response
1	ASID	Susan Globus	X		
2	ASID	Robert Wright			X
3	CIDA	Betsy S. Gabb			X
4	CIDA	Holly Mattson		X	
5	IDEC	Nancy Blossom			X
6	IDEC	Stephanie Clemons		X	
7	IDEC	Delores Ginthner		X	
8	IDEC	Jane Kucko			X
9	IDEC	Josette Rabun		X	
10	IDEC	John Turpin	X		
11	IDEC	Lisa Waxman	X		
12	IDEC	Allison White	X		
13	IDEC	Eric Wiedegreen	X		
14	IIDA	Pamala Light	X		
15	JID	Jo Ann Asher Thompson	X		
16	NCIDQ	Jan Bast	X		
17	NCIDQ	Barbara Pallat	X		
18	NCIDQ	Janice Young			X
19	Publications	Denise Guerin	X		
20	Publications	Buie Harwood	X		
21	Publications	Anna Marshall-Baker			X
22	Publications	Caren Martin	X		
23	Publications	John Weigand			X

Appendix C
Subject Content List

	Subject Content List	HSW	Source
1	the concepts, principles, and theories of sustainability as they pertain to building methods, materials, systems, and occupants	W	CIDA 2-a
2	how design needs may vary for different socio-economic populations	W	CIDA 2-c
3	social and cultural norms may vary and are relevant to making appropriate design decisions	W	CIDA 3-a
4	appropriately apply theories of human behavior	W	CIDA 3-b
5	select, interpret, and apply appropriate ergonomic and anthropometric data	SW	CIDA 3-c
6	appropriately apply universal design concepts	SW	CIDA 3-d
7	design solutions that impact occupant well being and performance	W	CIDA 3-b
8	design solutions for all people including those with special needs – physical, cognitive, or emotional – which may be present from birth, acquired through illness or injury, or unique to children or the elderly	SW	CIDA 3-d
9	select and apply appropriate materials and products on the basis of their properties and performance criteria, including environmental attributes and life cycle cost	SW	CIDA 11-c
10	competently select and apply luminaires and light sources	SW	CIDA 12-b
11	appropriate strategies for acoustical control	W	CIDA 12-d
12	how thermal systems impact interior design solutions	W	CIDA 12-f
13	how the selection and application of products and systems impact indoor air quality	H	CIDA 12-h
14	pollutant source control, filtration, ventilation variables, CO ₂ monitoring, mold prevention	H	CIDA 12-g
15	design solutions affect and are impacted by structural systems and methods	S	CIDA 13-a
16	design solutions affect and are impacted by non-structural systems including ceilings, flooring, and interior walls.	S	CIDA 13-b
17	design solutions affect and are impacted by distribution systems including power, mechanical, HVAC, data/voice telecommunications, and plumbing.	W	CIDA 13-c
18	design solutions affect and are impacted by energy, security, and building controls systems	W	CIDA 13-d
19	design solutions affect and are impacted by the interface of furniture with distribution and construction systems.	S	CIDA 13-e
20	design solutions affect and are impacted by vertical circulation systems.	SW	CIDA 13-f
21	sustainability guidelines.	W	CIDA 14-a
22	industry-specific regulations	HS	CIDA 14-b
23	laws, codes, standards, and guidelines that impact fire and life safety, including compartmentalization: fire separation and smoke containment.	HS	CIDA 14-c
24	laws, codes, standards, and guidelines that impact fire and life safety, including movement: access to the means of egress including stairwells, corridors, exitways.	HS	CIDA 14-d
25	laws, codes, standards, and guidelines that impact fire and life safety, including detection: active devices that alert occupants including smoke/heat detectors and alarm systems	HS	CIDA 14-e
26	laws, codes, standards, and guidelines that impact fire and life safety,	HS	CIDA 14-f

	including suppression: devices used to extinguish flames including sprinklers, standpipes, fire hose cabinets, extinguishers, etc.		
27	select and apply appropriate federal, state/provincial, and local codes.	HS	CIDA 14-g
28	select and apply appropriate standards	HS	CIDA 14-h
29	select and apply appropriate accessibility guidelines	SW	CIDA 14-i
30	Barrier-free design / accessibility	SW	BoK
31	Environmental health / indoor air quality	H	BoK
32	Human behavior (psychological and sociological factors / built environment interrelationship	W	BoK
33	Human factors (ergonomics / anthropometrics / proximics)	W	BoK
34	Lighting	SW	BoK
35	Sustainable / Green Design	W	BoK
36	Signage / Wayfinding	SW	BoK
37	Materials	SW	BoK
38	Color Psychology	SW	BoK
39	Code Requirements / regulations	HS	BoK
40	Fire Codes / requirements / ratings and life safety principles	HS	BoK

Appendix D
Panel of Experts

Panel of Experts

1) Allison Carll-White, PhD

IDEC Fellow
IIDA Fellow
University of Kentucky
Lexington, KY

2) John Turpin, PhD

IDEC Fellow
2008 IDEC President
Washington State University
Spokane, WA

3) Lisa Waxman, PhD

IDEC Fellow
2011 IDEC President
Florida State University
Tallahassee, FL

4) Pamela Evans, PhD

IDEC Fellow
2005 IDEC President
Kent State University
Kent, OH

Appendix E

Letter to Panel of Experts with Table of Specifications

November 23, 2009

Thank you for agreeing to participate on the panel of experts for my research study.

The profession of interior design plays an integral, defined role within the team of professionals charged with the challenge to protect the health, safety and welfare of the public. Many of us believe there is a lack of mandated minimum competencies to separate designers who are qualified by education, experience and examination from those without these qualifications. These people are able to call themselves “interior designers” which has led to confused perceptions as to who an interior designer is and what an interior designer does. Lingering perceptions of an interior designer as an interior decorator have hampered pursuits to require minimum competencies to perform interior design functions, thus potentially endangering the public’s health, safety and welfare.

Some research studies indicate that the value of a profession isn’t based on what it says about itself, but on the value that others place on its services. One must first know what the extrinsic perceptions are to know how to change them or to make them more valuable (Marshall-Baker, 2004). Data is needed to understand the perceptions toward an interiors designer’s ability to protect the health, safety, and welfare of the public. No instrument has been found to gather and measure such data.

You are being asked to participate on the Panel of Experts for the creation of an instrument that will measure perceptions toward an interior designer’s ability to protect the health, safety and welfare of the public. The purpose of a panel of experts is to provide the framework of knowledge and practice towards the development of a valid, reliable and objective instrument.

I have conducted a thorough review of the literature that includes the interior design body of knowledge and CIDA standards. The following subject items have been identified as relating to interior design and health, safety and welfare. Please review each subject item and rate the item on a level of importance with a 1 being low and 5 being high. Responses may be emailed (Dana-Moody@utc.edu) or faxed (423.425.4479) back to me. I will create the instrument based on your responses to this rating.

Thank you again for your participation. Please feel free to contact me if you have any questions (423)596-2044.

Sincerely,
Dana Moody

Categorical Areas of Health, Safety & Welfare in Interior Design

The purpose of the questionnaire that is being created is to gather data on perceptions toward an interior design's impact on health, safety and welfare. Please review each subject item and rate your belief regarding the level of importance for perceptual data to be gathered on each item with a 1 being low and 5 being high.

	Table of Specifications	Rating Scale				
		Low Importance				High Importance
1	Sustainability (Building methods, materials, systems, occupants)	1	2	3	4	5
2	Human Behavior (Psychological, sociological)	1	2	3	4	5
3	Human Factors (Ergonomics, Anthropometrics, Proxemics)	1	2	3	4	5
4	Materials	1	2	3	4	5
5	Lighting (Color, quality, use, control)	1	2	3	4	5
6	Acoustics (Noise control, sound distribution, speech privacy, material selection, white noise, floor, wall and ceiling systems)	1	2	3	4	5
7	Thermal Systems (Mechanical system design, airflow, occupant reaction to thermal variables)	1	2	3	4	5
8	Indoor Air Quality (Pollutant source control, filtration, ventilation variable, CO2 monitoring, mold prevention)	1	2	3	4	5
9	Distribution and Construction Systems (Structural, Non-Structural, Power, Mechanical, HVAC, Data/Voice Telecommunications, Plumbing, Energy, Security, Building Controls, Interface of Furniture)	1	2	3	4	5
10	Circulation (Vertical Circulation, Signage, Wayfinding)	1	2	3	4	5
11	Code Requirements / Regulations	1	2	3	4	5
12	Fire and Life Safety	1	2	3	4	5
13	Barrier-Free Design / Accessibility	1	2	3	4	5
14	Universal Design	1	2	3	4	5

Appendix F

Rated Table of Specifications

Rated Table of Specifications

	Table of Specifications	Rating Scale					Averaged Ratings
		Low Importance		High Importance			
1	Materials	1	2	3	4	5	5
2	Code Requirements / Regulations	1	2	3	4	5	5
3	Fire and Life Safety	1	2	3	4	5	5
4	Barrier-Free Design / Accessibility	1	2	3	4	5	5
5	Human Behavior (Psychological, sociological)	1	2	3	4	5	4.6
6	Human Factors (Ergonomics, Anthropometrics, Proxemics)	1	2	3	4	5	4.6
7	Universal Design	1	2	3	4	5	4.6
8	Sustainability (Building methods, materials, systems, occupants)	1	2	3	4	5	4.3
9	Indoor Air Quality (Pollutant source control, filtration, ventilation variable, CO2 monitoring, mold prevention)	1	2	3	4	5	4.3
10	Distribution and Construction Systems (Structural, Non-Structural, Power, Mechanical, HVAC, Data/Voice Telecommunications, Plumbing, Energy, Security, Building Controls, Interface of Furniture)	1	2	3	4	5	4.3
11	Lighting (Color, quality, use, control)	1	2	3	4	5	4
12	Acoustics (Noise control, sound distribution, speech privacy, material selection, white noise, floor, wall and ceiling systems)	1	2	3	4	5	4
13	Circulation (Vertical Circulation, Signage, Wayfinding)	1	2	3	4	5	4
14	Thermal Systems (Mechanical system design, airflow, occupant reaction to thermal variables)	1	2	3	4	5	3.7

Appendix G

First Preliminary Draft of Instrument

Interior Design HSW Inventory

Using a scale of 1 to 5 with 1 being never and 5 being always, what are your perceptions toward interior designers:

Interior Designers should know:		Never	Almost Never	Sometimes	Almost Always	Always
1	how to produce a lighting plan (showing placement of lights with switches)					
2	how building materials & interior finishes impact a person's safety within an environment					
3	how to select materials for halls & stairways to make it easier for a person to get out of a building that is on fire					
4	how building materials & interior finishes impact a person's hearing					
5	how to design for people with disabilities					
6	effects of lighting on a person's health & safety					
7	fire/life-safety codes					
8	how to use colors & lighting to prevent a person from falling					
9	the average measurements of the human body					
10	how to design for all people of all ages & abilities					
11	the psychological impact of color					
12	the impact a person's height & size has on their safety & comfort when selecting furniture					
13	strategies for reducing the consumption of natural resources					
14	accessibility codes (for wheelchairs & other mobile aids)					
15	how to control noise with building materials & interior finishes					
16	how to produce a mechanical plan (showing placement of heating & air conditioning vents)					
17	strategies for how to prevent injury and/or death in the built environment					
18	how to control heating & air conditioning airflow to improve a person's comfort within a space					
19	the impact building materials & interior finishes have on air quality					
20	how materials impact fire safety					
21	building codes					
22	strategies for using sustainable building materials, finishes, & furnishings					
23	how design solutions impact a person's vision					
24	how to use interior finishes to prevent falls					
25	when to use fire-rated building materials, finishes and/or furnishings					

Using a scale of 1 to 5 with 1 being never and 5 being always, what are your perceptions toward interior designers:

		Never	Almost Never	Sometimes	Almost Always	Always
	Interior Designers Should Work under the supervision of an Architect when utilizing:	1	2	3	4	5
1	accessibility codes					
2	building codes					
3	fire/life-safety codes					
4	building materials					
5	interior finishes such as paint, fabric, wall coverings and floor coverings					
6	lighting					
7	Sustainability / green design					

Using a scale of 1 to 5 with 1 being never and 5 being always, what are your perceptions toward interior designers:

		Never	Almost Never	Sometimes	Almost Always	Always
	Interior Designers should have a 4-year college degree in interior design to work with:	1	2	3	4	5
1	accessibility codes					
2	building codes					
3	fire / life safety codes					
4	building materials					
5	interior finishes such as paint, fabric, wall coverings and floor coverings					
6	lighting					
7	sustainability / green design					

Using a scale of 1 to 5 with 1 being never and 5 being always, what are your perceptions toward interior designers:

		Never	Almost Never	Sometimes	Almost Always	Always
	Interior Designers should be certified to work with:	1	2	3	4	5
1	accessibility codes					
2	building codes					
3	fire / life safety codes					
4	building materials					
5	interior finishes such as paint, fabric, wall coverings and floor coverings					
6	lighting					
7	sustainability / green design					

Appendix H

Final Preliminary Draft of Instrument

Health Safety & Welfare in the Built Environment

This inventory is designed to gather information about your perceptions toward the interior design profession as a means to protect the health, safety and welfare of the public in the built environment. “Health and safety” in the built environment refers to design solutions that conform to codes, regulations, and product performance standards to protect the public. The term “welfare” in the built environment refers to design solutions that promote the social, psychological and physical well-being of individuals, the community and the environment (Guerin & Marin, 2004).

Please fill in your response to each item. Completion of this survey acknowledges your voluntary cooperation and all responses will be kept strictly confidential.

Instructions:

Rate your perceptions toward an interior designers’ role towards protecting the health safety and welfare of the public in the build environment using a rating scale of never to always. Each item should have only one response considered the “best answer”.

EXAMPLE

Rate the importance for Interior Designers to:	Rating Scale				
	Never	Almost Never	Sometimes	Almost Always	Always
Be knowledgeable of.....	1	2	3	4	5

There is no right or wrong answer. Please work as quickly as possible. Please respond to every item on the list. Please answer as honestly and accurately as possible

Health Safety & Welfare in the Built Environment

Rate your perceptions toward an interior designers' role towards protecting the health safety and welfare of the public in the built environment using a rating scale of never to always. Each item should have only one response considered the "best answer".

Rate the importance for Interior Designers to:		Rating Scale				
		Never	Almost Never	Sometimes	Almost Always	Always
1	be aware of the effects of lighting on a person's health & safety	1	2	3	4	5
2	have the ability to produce a lighting plan (showing placement of lights with switches)	1	2	3	4	5
3	select materials for halls & stairways to make it easier for a person to get out of a building that is on fire	1	2	3	4	5
4	work under the supervision of an architect when utilizing building codes	1	2	3	4	5
5	earn a 4-year college degree in interior design	1	2	3	4	5
6	be certified or licensed	1	2	3	4	5
7	recognize how building materials & interior finishes impact a person's hearing	1	2	3	4	5
8	know how to design for people with disabilities	1	2	3	4	5
9	work under the supervision of an architect when utilizing materials for buildings	1	2	3	4	5
10	know fire/life-safety codes	1	2	3	4	5
11	recognize the impact building materials & interior finishes have on air quality	1	2	3	4	5
12	understand how to use colors & lighting to prevent a person from falling	1	2	3	4	5
13	be familiar with the average measurements of the human body	1	2	3	4	5
14	know how to design for all people of all ages & abilities	1	2	3	4	5
15	understand the psychological impact of color	1	2	3	4	5
16	work under the supervision of an architect when utilizing sustainability guidelines / green design	1	2	3	4	5
17	take into account a person's height & size when selecting furniture	1	2	3	4	5

18	produce strategies for reducing the consumption of natural resources	1	2	3	4	5
19	work under the supervision of an architect when utilizing lighting	1	2	3	4	5
20	implement accessibility codes (for wheelchairs & other mobile aids)	1	2	3	4	5
21	identify how to control noise when specifying building materials & interior finishes	1	2	3	4	5
22	know when to use fire-rated building materials, finishes and/or furnishings	1	2	3	4	5
23	be able to produce a mechanical plan (showing placement of heating & air conditioning vents)	1	2	3	4	5
24	identify strategies for how to prevent injury and/or death in the built environment	1	2	3	4	5
25	work under the supervision of an architect when utilizing accessibility codes	1	2	3	4	5
26	control heating & air conditioning airflow to improve a person's comfort within a space	1	2	3	4	5
27	work under the supervision of an architect when utilizing interior finishes such as paint, fabric, wall coverings and floor coverings	1	2	3	4	5
28	comprehend how materials impact fire safety	1	2	3	4	5
29	understand and implement building codes	1	2	3	4	5
30	implement strategies for using sustainable building materials, finishes, & furnishings	1	2	3	4	5
31	identify building materials & interior finishes that impact a person's safety within an environment	1	2	3	4	5
32	recognize how design solutions impact a person's vision	1	2	3	4	5
33	prevent falls through the selection of interior finishes	1	2	3	4	5
34	work under the supervision of an architect when utilizing fire/life-safety codes	1	2	3	4	5

Background Information

Please check all that apply:

Profession: ☐ Architect
☐ Engineer
☐ Builder / Contractor
☐ Interior Designer
☐ Building Product Rep
/ Material Supplier
☐ Other - please specify: _____

Job Title: _____ Years in Profession: _____

Certifications / Registrations Held _____

		<u>MAJOR</u>
Education Level:	☐ High School Diploma	
	☐ Associate Degree	_____
	☐ Bachelor Degree	_____
	☐ Master's Degree	_____
	☐ PhD	_____

Gender: ☐ Male ☐ Female

Year of Birth: ☐ Before 1946
☐ 1946-1964
☐ 1965-1976
☐ 1977-1998
☐ After 1998

Appendix I.

Statistical Analysis – Cronbach's Alpha

```

GET
  FILE='J:\Dissertation\Statistics\Pilot Study.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
RELIABILITY
  /VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15 Q16 Q17 Q18
Q19 Q20 Q21 Q22 Q23 Q24 Q25 Q26 Q27 Q28 Q29 Q30 Q31 Q32 Q33 Q34
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.

```

Reliability

[DataSet1] J:\Dissertation\Statistics\Pilot Study.sav

Scale: ALL VARIABLES

Case Processing Summary			
		N	%
Cases	Valid	35	87.5
	Excluded ^a	5	12.5
	Total	40	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.961	34

Appendix J.
Final Draft of Instrument



Health, Safety, & Welfare in the Built Environment

This inventory is designed to gather information about your perceptions toward the interior design profession as a means to protect the health, safety and welfare of the public in the built environment. "Health and safety" in the built environment refers to design solutions that conform to codes, regulations, and product performance standards to protect the public. The term "welfare" in the built environment refers to design solutions that promote the social, psychological, and physical well-being of the individuals, the community and the environment (Guerin & Marin, 2004).

Please fill in your response to each item. Completion of this survey acknowledges your voluntary cooperation and all responses will be kept confidential.

Instructions:

Rate your perceptions regarding an interior designer's role toward protecting the health, safety, and welfare of the public in the built environment using a rating scale of NEVER (1) to ALWAYS (5). Each item should have only one response considered the "best answer".

There is no right or wrong answer. Work as quickly as possible, respond to every item on the list, and answer as honestly and as accurately as possible.

Example

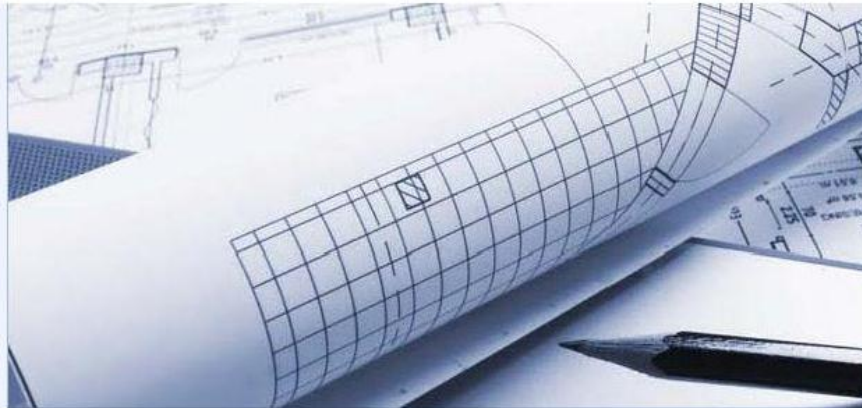
Guerin, D. A. & Martin, C. S. (2004). The career cycle approach to defining the interior design profession's body of knowledge. *Journal of Interior Design*, 30 (2), pp.1-22.

Rate the Importance of Interior Designers to:

	Never (1)	Almost Never (2)	Sometimes (3)	Almost Always (4)	Always (5)
Be knowledgeable of....	☐	☐	☐	☐	☐

Continue »

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Health, Safety, & Welfare in the Built Environment

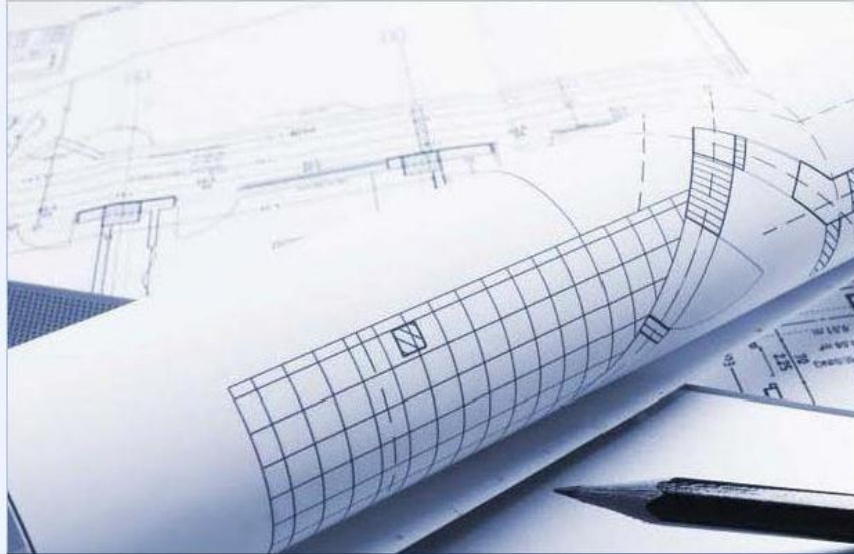
Rate your perceptions regarding an interior designer's role towards protecting the health safety and welfare of the public in the built environment using a rating scale of NEVER (1) to ALWAYS (5). Each item should have only one response considered the "best answer".

Rate the Importance of Interior Designers to:

	Never (1)	Almost Never (2)	Sometimes (3)	Almost Always (4)	Always (5)
be aware of the effects of lighting on a person's health, safety & welfare	☐	☐	☐	☐	☐
have the ability to produce a lighting plan (showing placement of lights with switches)	☐	☐	☐	☐	☐
select materials for halls & stairways that make it easier for a person to get out of a building that is on fire	☐	☐	☐	☐	☐
work under the supervision of an architect when utilizing building codes	☐	☐	☐	☐	☐
earn a 4-year college degree in interior design	☐	☐	☐	☐	☐
recognize how building materials & interior finishes impact a person's hearing	☐	☐	☐	☐	☐

know how to design for people with disabilities	☐	☐	☐	☐	☐
work under the supervision of an architect when utilizing building materials	☐	☐	☐	☐	☐
know fire/life-safety codes	☐	☐	☐	☐	☐
recognize the impact building materials & finishes have on indoor air quality	☐	☐	☐	☐	☐
understand how to use colors & lighting to prevent a person from falling	☐	☐	☐	☐	☐
know how to design for people of all ages & abilities	☐	☐	☐	☐	☐
be familiar with the average body sizes and measurements of people	☐	☐	☐	☐	☐
understand the psychological impact of color	☐	☐	☐	☐	☐
know when and where to use fire-rated building materials, finishes and/or furnishings	☐	☐	☐	☐	☐
be able to produce a mechanical plan (showing placement of heating & air conditioning vents)	☐	☐	☐	☐	☐
identify strategies for how to prevent injury and/or death in the built environment	☐	☐	☐	☐	☐

work under the supervision of an architect when utilizing accessibility codes					
place heating & air conditioning vents to improve a person's comfort within a space					
work under the supervision of an architect when utilizing interior finishes such as paint, fabric, wall coverings and floor coverings					
comprehend how materials impact fire safety					
understand and implement building codes					
implement strategies for using sustainable building materials, finishes, & furnishings					
identify building materials & interior finishes that impact a person's safety within an environment					



Health, Safety, & Welfare in the Built Environment

* Required

Profession *

Please check all that apply

- ☐ Architect
- ☐ Engineer
- ☐ Builder / Contractor
- ☐ Interior Designer
- ☐ Building Product Rep / Material Supplier
- ☐ Educator
- ☐ Student
- ☐ Other:

Job Title *

If Educator, please specify area in provided box:

If Student, please specify major in provided box:

Years in Profession *

Certifications/Registrations Held *

What state/s do you work in? *

Highest Education Level Achieved *

- ☐ High School Diploma
- ☐ Associate's Degree
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Doctoral Degree

If you have obtained a Bachelor's degree, please specify your major of study:

If you have obtained a postbaccalaureate degree, please specify your major of study:

Gender *

- ☐ Male
- ☐ Female

Year of Birth *

- ☐ Before 1946
- ☐ 1946-1964
- ☐ 1965-1976
- ☐ 1977-1998
- ☐ After 1998

How did you become aware of this survey?

- ☐ CSI Listserve
- ☐ Twitter "tweet"
- ☐ LinkedIn post

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Appendix K.
Notification of Impending Survey

February 4, 2011

Dear fellow CSI Member,

A few days from now you will receive an email request to fill out a brief questionnaire for an important university research project. It will ask you for your valued opinion concerning health, safety and welfare of the built environment as it relates to interior designers. I am writing in advance because it has been found that many people like to know ahead of time that they will be contacted. It should only take 5-7 minutes to complete the questionnaire.

Thank you for your time and consideration. It is only with the generous help of people like you that this research could be successful. Please feel free to contact me if you have any questions (423)425-4459 or DanaMoodyASID@gmail.com.

Sincerely,
Dana Moody

Appendix L.
Survey Request 1

February 7, 2011

Dear Fellow CSI Members,

Below you will find the link to the brief questionnaire that I notified you about this past Friday. It will ask you for your valued opinion concerning health, safety and welfare of the built environment as it relates to interior designers. The finding of this study will help to advance a University research study. It should only take 5-7 minutes to complete the questionnaire.

Thank you for your time and consideration. It is only with the generous help of people like you that this research could be successful. Please feel free to contact me if you have any questions [\(423\) 425-4459](tel:4234254459) or DanaMoodyASID@gmail.com

Sincerely,

Dana Moody

<https://spreadsheets.google.com/viewform?hl=en&pli=1&formkey=dFBBdFlkcmRyRDZDVTZ3dUt2Wl96bFE6MQ#gid=0>

Appendix M.

Survey Request 1 – Error Correction

February 14, 2011

Dear Fellow CSI Members,

Happy Valentine's Day!

This past Friday I sent you a link to a university survey that I am conducting on health, safety and welfare of the built environment as it relates to interior designers. Unfortunately, in my efforts to make the survey easy to take, I created a glitch in the system that did not allow the data to be saved. Your input is SO important to me. Please take the time (only 5-7 minutes) to re-submit your valued opinions or, if you have not completed the survey yet, please use the link below.

Thank you for your time and consideration. It is only with the generous help of people like you that this research could be successful. Please feel free to contact me if you have any questions [\(423\) 425-4459](tel:4234254459) or DanaMoodyASID@gmail.com

Sincerely,
Dana Moody

<https://spreadsheets.google.com/viewform?hl=en&pli=1&formkey=dHVMYXFDUGpKUjRfQ1AxOV9GM25zOXc6MQ#gid=0>

Appendix N.
Survey Request 2

February 28, 2011

Dear Fellow CSI Members,

This is just a gentle reminder to fill out (if you have not already) the survey that I am conducting on health, safety and welfare of the built environment as it relates to interior designers. Below you will find a link to the survey which takes approximately 5-7 minutes to complete.

<https://spreadsheets.google.com/viewform?hl=en&pli=1&formkey=dHVMYXFDUGpKUjRfQ1AxOV9GM25zOXc6MQ#gid=0>

Thank you for your time and consideration. It is only with the generous help of people like you that this research could be successful. Please feel free to contact me if you have any questions (423) 425-4459 or DanaMoodyASID@gmail.com

Sincerely,
Dana Moody

Appendix O.
Survey Request 3

March 9, 2011

Dear Fellow CSI Members,

I just wanted to thank everyone who has taken the time to complete my research survey on health, safety and welfare of the built environment as it relates to interior designers. If you have not yet had the opportunity to fill one out, there is still time as I will continue collecting data for another week. A link to the survey has been attached for your convenience. It only takes 5-7 minutes to complete.

<https://spreadsheets.google.com/viewform?hl=en&pli=1&formkey=dHVMYXFDUGpKUjRfQ1AxOV9GM25zOXc6MQ#gid=0>

Thank you for your time and consideration. It is only with the generous help of people like you that this research could be successful. Please feel free to contact me if you have any questions (423) 425-4459 or DanaMoodyASID@gmail.com

Sincerely,
Dana Moody

Appendix P.
Survey Request 4

It only takes 5-7 minutes.

Dear Fellow CSI Members,

Thank you to those of you who have filled out my survey on health, safety and welfare of the built environment, but I need more data to make this study significant. If you have not yet responded to the survey, please take the time to do so now. A link to the survey has been attached for your convenience. It only takes 5-7 minutes to complete.

<https://spreadsheets.google.com/viewform?hl=en&pli=1&formkey=dHVMYXFDUGpKUjRfQ1AxOV9GM25zOXc6MQ#gid=0>

Thank you for your time and consideration. It is only with the generous help of people like you that this research could be successful. Please feel free to contact me if you have any questions.

Sincerely,
Dana Moody

Appendix Q.
Items with Reverse Meaning

Items with Reverse Meaning

Rate the importance for Interior Designers to:		Rating Scale				
		Never	Almost Never	Sometimes	Almost Always	Always
4	work under the supervision of an architect when utilizing building codes	1	2	3	4	5
8	work under the supervision of an architect when utilizing building materials	1	2	3	4	5
15	work under the supervision of an architect when utilizing sustainability guidelines / green design	1	2	3	4	5
19	work under the supervision of an architect when designing lighting plans	1	2	3	4	5
25	work under the supervision of an architect when utilizing accessibility codes	1	2	3	4	5
27	work under the supervision of an architect when utilizing interior finishes such as paint, fabric, wall coverings and floor coverings	1	2	3	4	5
34	work under the supervision of an architect when utilizing fire/life-safety codes	1	2	3	4	5

VITA

Dana M. Moody Hellwig was born in Jackson, Mississippi on December 19, 1969. She graduated high school from Rebul Academy in Learned, Mississippi in May 1987. The following August she entered Hinds Community College where she acquired an Associate degree as a pre-interior design major. In August, 1989 Dana transferred to the University of Southern Mississippi (USM) in Hattiesburg, Mississippi. While a student at USM, Dana interned with the Henry Frances DuPont Winterthur Museum located outside Wilmington, Delaware. Dana graduated from USM with a BS in Interior Design in August, 1992.

Also in August, 1992, Dana began post-graduate work at the University of Tennessee, Knoxville (UTK). While at UTK, she interned for the Historic Natchez Foundation in Natchez, Mississippi, practiced as a registrar for the Hazen Historical Museum Foundation and served as the museum chairman for the Bleak House “Confederate Memorial Hall”, both in Knoxville, TN. She received a MS in Interior Design in May, 1995 with a minor in Art and a cognate in Museology.

From 1995 to 2000, Dana worked as an interior design instructor at the University of Central Arkansas in Conway, Arkansas. In 1999, she completed the National Council for Interior Design Qualification (NCIDQ). Dana has been teaching interior design at the University of Tennessee at Chattanooga (UTC) in Chattanooga, Tennessee since 2000, where she is currently Associate Professor and head of the Interior Design Department. During this time Dana’s research interest began to focus on the role that space plays in the aging process and how interiors impact health, safety, and welfare of the public. Dana enrolled at UTK to pursue a PhD in Education with a concentration in Health Behavior and Health Education with a cognate in Architecture. She received a Doctor of Philosophy degree in May, 2012.