

**THE EXPERIENCE OF...SUSPENSE:  
UNDERSTANDING THE CONSTRUCT, ITS ANTECEDENTS, AND ITS  
CONSEQUENCES IN CONSUMPTION AND ACQUISITION CONTEXTS**

A Dissertation

by

JULIE ANNA GUIDRY

Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2004

Major Subject: Marketing

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## ABSTRACT

The Experience of . . . Suspense:

Understanding the Construct, Its Antecedents, and Its Consequences

in Consumption and Acquisition Contexts. (December 2004)

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“Will my flight be cancelled?” “Will I win the eBay auction?” These consumption and product acquisition situations would trigger the experience of . . . *suspense*. *Suspense is defined as the overall anticipatory arousal associated with the hope and/or fear felt by a consumer assessing the likelihood of occurrence of an important and imminent consumption or acquisition event.* If one views a potential outcome as causing pleasure (an *approach appraisal*), *hope* will be felt, while if one views a potential outcome as causing pain (an *avoidance appraisal*), *fear* will be felt. Other variables expected to indirectly impact suspense are *frequency of probability change, degree of probability change* and *anticipation time*.

The conceptual model in this dissertation also proposes that people have an *attitude toward the anticipation period* and identifies four resolution emotions, *satisfaction, disappointment, relief, and anguish*, which may occur once the outcome is known. Further, attitude toward anticipation period and the resolution emotions are expected to affect *attitude toward overall experience*.

Three studies were conducted. The objective of Studies 1 and 2 was to develop scales yielding reliable scores of hope, fear, and suspense. Fifty words related to hope, fear, and suspense were generated. In Study 1, 553 participants rated the words on the evaluative and activity dimensions using 18 semantic differential scale items. O-technique factor analysis was used to analyze the data in Study 1. In Study 2, 354 participants read one of three suspenseful stories, then indicated their hope, fear, and suspense. Exploratory and confirmatory factor analyses were used in Study 2.

Study 3 consisted of an experiment in which 241 participants read a suspenseful house-buying scenario, then indicated their hope, fear, and suspense. Structural equation modeling was used to analyze the data in Study 3. Results supported the conceptualization of suspense: both *hope* and *fear* had a positive effect on *suspense*. Additionally, *approach appraisal* had a positive effect on *hope*, and *avoidance appraisal* had a positive effect on *fear*. The moderating effect of *frequency of probability change* was not supported. However, *frequency of probability change* did have a positive effect on both *hope* and *fear*.

## **DEDICATION**

To my parents, John and Julie Guidry, whose love and support have helped me to achieve my dreams.

## ACKNOWLEDGMENTS

So many people have helped make this dissertation a reality.

First of all, I don't believe I could have chosen a better committee; they were awesome! Each member provided guidance and encouragement in their own unique way. I feel extremely blessed to have had Len Berry serve as my chairperson. Not only is he one of the greatest scholars in the marketing discipline, he is also one of the most compassionate persons I have ever known. It amazes me how he always knew just what to say when I was feeling down. I always left his office encouraged and ready to tackle the next obstacle.

My other committee members were a great resource, as well. From the conceptualization to the methodology to the analysis, I could always count on Manjit Yadav for his keen and insightful advice, often at a moment's notice. He was especially helpful with the experimental design and pretesting. Bill Pride was always available to give great practical advice and encouragement (and to chat about the latest good restaurants in town). He was also more than happy to let me collect data from his large Principles of Marketing class. I would also like to thank Bruce Thompson, who spent countless hours working with me on the analyses and who provided quick and thoughtful feedback on the empirical sections.

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## CHAPTER I

### INTRODUCTION

“Will my flight be cancelled?” “Will the wedding go as planned?” “Do we have termites?” “Will I win the eBay auction?” All of these consumption-related questions have one common denominator: Each question would trigger the experience of . . . *suspense*.

Suspense is an experience of anticipatory arousal that involves the emotions of hope, fear, or both hope and fear. It is elicited by situations in which one is uncertain about an upcoming and important outcome. The experience of suspense can occur in a multitude of consumption and product acquisition situations—from risky consumption behaviors to medical services, from eBay auctions to possible consumer catastrophes, from new product launches to entertainment and sports marketing, and from gift-giving and –receiving to gambling. All of these consumption experiences involve situations in which a customer must await an uncertain and important outcome.

Despite the wide array of marketing contexts in which suspense can occur, suspense is a neatly packaged phenomenon, with a specific beginning and ending, and containing specific emotions. In other words, suspense is a particular type of *experience*. Customer experiences are argued to be the next new source of economic value (Pine and Gilmore 1999), and understanding and managing customer experiences is becoming a topic of increasing importance (Berry, Carbone, and Haeckel 2002). Further,

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This dissertation follows the style and format of the *Journal of Marketing*.

understanding customer experiences is listed as a current MSI top tier priority with great interest (MSI Research Priorities, 2002-2004). Thus, it appears that business-minded people are beginning to appreciate the value of understanding experiences.

Customers can undergo numerous types of experiences. Thus, one may wonder why *suspenseful* experiences should be studied. There are several reasons why marketers should take note. First, suspense, or anticipatory arousal, felt during these situations of uncertainty is proposed to *amplify* emotional reactions that occur once the consumer is certain about the consumption/acquisition outcome—emotions such as satisfaction, disappointment, relief, and anguish. Arousal has been associated with emotional intensity. Several studies have shown that when a person has been placed in an aroused state, one's evaluations and emotional reactions at a later point in time are more pronounced than if the individual had not been placed in an aroused state (Gorn, Pham, and Sin 2001; Mattila and Wirtz 2000; Oliver, Rust, and Varki 1997; Ortony, Clore, and Collins 1988; Russell 1980; Watson and Tellegen 1985; Zillmann 1991). Thus, in the case of suspense, if a man won an Internet auction, he would be satisfied; but if the auction were suspenseful, in which the man was in a state of high emotional arousal, he would likely be even more satisfied with winning the auction.

Second, the period during which a person is in suspense could be evaluated *independently of the outcome*. Economists have recognized that people derive utility in moments leading up to an outcome (Caplin and Leahy 2001; Conlisk 1993; Lopes 1987). Thus, one's evaluation of the overall experience is proposed to be a function of the suspense felt *before* the outcome is known, in addition to the emotional reactions at the

outcome (possibly amplified via suspense). For instance, a woman in suspense about whether she will make her connecting flight will evaluate her experience based on how she felt while she was uncertain or in suspense, as well as on whether she made the flight. The woman would likely feel fear (a negative emotion) before she knew the outcome of the flight, and relief (a positive emotion) once she found out she made the flight. Thus, these negative (fear) and positive (relief) emotions will likely impact her overall evaluation of the experience.

An additional reason suspenseful experiences should be studied is because they can be extremely emotional; in fact, other than anger, a suspenseful experience is arguably the strongest emotional experience one can have in a marketing context. Research has suggested that an experience of suspense, during which a person is uncertain, is more emotionally arousing than the feeling felt at the outcome, at which point a person is certain. Nomikos, Opton, Averill, and Lazarus (1968) considered fear-filled suspenseful experiences, in which they had people watch scenes of milling accidents. They found that, while peoples' heart rate and skin conductance (i.e., arousal) *increased before* the accident, these physiological reactions quickly *decreased after impact* with the saw, even though the actual accident last for 10 seconds. The authors concluded "Most of the stress reaction occurs during the anticipation or threat period, rather than during the actual confrontation when the subject views the accident itself" (p. 207). This is interesting, particularly because one would expect participants to perceive the actual accident as gruesome and thus arousing. Thus, this study provides strong evidence of the power of uncertainty and the suspense, or the anticipatory arousal, that

accompanies it. A final reason why marketers should study suspense, as mentioned, is that it can occur in numerous marketing contexts.

Despite the potential impact of suspense on the evaluation of a consumption experience and the several contexts in which suspense can occur, no research has applied the concept of suspense to consumption experiences. Only one study in the marketing literature has focused on suspense (Alwitt 2002); however, the study's context was advertisements, not real life consumption experiences. Further, very little research in marketing has dealt with the two emotions proposed to be associated with suspense—hope and fear. An article on hope by MacInnis and De Mello (forthcoming, 2004) is the only research in marketing that addresses the construct. Marketing researchers have studied fear to a much greater extent. However, very little research considers fear in consumption situations. Rather, research on fear has mainly concentrated on the effectiveness of fear appeals in advertising (e.g., Ray and Wilkie 1970; Tanner, Hunt, and Eppright 1991) and on salesperson anxiety (Verbeke and Bagozzi 2000). Only Wooten (2000) explores anxiety in a consumer context: gift-giving. Thus, little is known about suspense or its associated emotions of hope and fear and how these constructs impact consumers' evaluations of their consumption and product acquisition experiences.

### **Background Literature and Research Questions**

Suspense is widely acknowledged to be an important concept in drama and has received attention in the academic literature that pertains to novels and film. Specifically, researchers in the literary criticism and communication disciplines have studied suspense over the past 30 years. Further, researchers in economics (Caplin and Leahy 2001;

Conlisk 1993; Mullet, Hermand, Sastre, Nisot, and Rusineck 1994) and advertising (Alwitt 2002), as well as the popular business press (Pine and Gilmore 1999) have recently begun to consider suspense as well.

Despite their efforts, there seems to be little agreement on what suspense is (Friedrichsen 1996). Most researchers do agree that suspense is an emotional experience that occurs when one is uncertain about an upcoming and important outcome. However, the emotional content of the experience is unresolved. Some researchers contend suspense is produced by possible negative outcomes, which implies that suspense is a fear-filled experience of negative emotion (Tan and Diteweg 1996; Vorderer, Knobloch, and Schramm 2001; Zillmann 1996). Others, particularly economists and the popular business press, see suspense as a positive experience, implying a hope-filled experience (Caplin and Leahy 2001; Mullet et al. 1994; Pine and Gilmore 1999). Still others believe that suspense involves situations in which *both* hope and fear must occur (Alwitt 2002; Barnet, Berman, and Burto 1971; Ortony et al. 1988; Sternberg 1978). Finally, some have suggested that suspense can be *either* a positive (i.e., hope-filled) or a negative (i.e., fear-filled) experience (Zillmann 1996).

Related to the confusion surrounding the construct, suspense researchers are also in disagreement concerning the antecedents of suspense. Researchers have proposed a multitude of antecedents, some of which are conflicting. The most notable conflict is whether suspense is induced by a high probability (often of a negative outcome) (Brewer 1996; Bryant, Rockwell, and Owens 1994; Carroll 1984; Carroll 1996; Comisky and Bryant 1982; de Wied 1994; Hoffner and Cantor 1991; Zillmann 1996) or by high

uncertainty (i.e., 50% probability of an outcome occurring) (Gan, Tuggle, Mitrook, Coussement, and Zillmann 1997; Ohler and Nieding 1996).

Further, because there is little agreement on a conceptual definition of suspense, its measurement has been inconsistent. Likewise, how suspenseful stimuli are manipulated is inconsistent across studies for the same reason: It is difficult to operationalize suspense via experimental manipulations if suspense is not well defined.

In sum, not only have marketers failed to address the concept of suspense, those who have studied suspense have not produced a generally agreed upon theory. Thus, the purpose of the dissertation is to provide a model of the antecedents and consequences of suspense. Research from the cognitive appraisal (Bagozzi 1992; Ortony et al. 1988; Roseman 1991; Roseman, Antoniou, and Jose 1996; Roseman, Spindel, and Jose 1990; Smith and Ellsworth 1985) and “dimensional” perspectives (Russell 1980; Watson and Tellegen 1985) of emotion will be incorporated to support this model. Additionally, other research in psychology, economics, and the evaluations of experiences will be used as further support. This dissertation will assume that the suspenseful experience is resolved at some point; in other words, the possible, unknown outcome that elicits the suspense is eventually known. For example, whether a person won the eBay auction will be included in the conceptual model. The rationale for including it is because a person’s evaluation of a suspenseful experience will likely include the resolution as well.

Specifically, the research questions this dissertation will address are as follows:

- *What is suspense, and how is it related to the emotions of hope and fear?*
- *What are the antecedents of suspense, and how do they influence suspense?*

- *What are the emotional reactions at the conclusion of a suspenseful experience?*
- *How does suspense impact these emotional reactions and the overall evaluation of a suspenseful experience?*

### **Expected Contributions of the Research**

This dissertation is expected to make several contributions. First, this research is expected to clarify the concept of suspense, as well as specify its antecedents and consequences. Little empirical research has been conducted on suspense in “real life” situations. Rather, most empirical work has addressed suspense in narratives, and a few studies have considered suspense in sports contexts. Both of these contexts are not “first person” suspense. Suspense in these contexts is mediated through the character or sports team in that one must first identify with this entity before suspense can take hold. Because suspense has been studied mostly in these contexts, developing a more general model that applies to a multitude of contexts is believed to help clarify some issues. In other words, suspense researchers may have concentrated on several variables that apply only to the narrative or sports contexts rather than concentrating on more global variables that would apply across contexts. Additionally, an emotion framework, based mostly on the work of the cognitive appraisal theorists (Bagozzi 1992; Ortony et al. 1988; Roseman et al. 1996; Smith and Ellsworth 1985), is expected to help provide stronger theoretical grounding for the proposed model of suspense. Finally, conceptualizing suspense as a retrospective evaluation of an *experience that occurs over time* is expected to provide a better understanding of the concept. Previously, many conceptualizations of suspense assumed that suspense was a state that occurred at a particular point in time. The assumption here that suspense is an experience provides a fresh lens through which this

phenomenon can be viewed and allows for the inclusions of variables that recognize suspense as a dynamic phenomenon.

This dissertation is also expected to add to the current state of knowledge in marketing in several ways. First, it is expected to contribute to the literature on consumption emotions. Originally, research on consumption emotions has dealt with emotions on a general level. Specifically, this research stream has identified a host of consumption emotions in a number of contexts. Empirical studies most often measure these emotions and then employ data reduction techniques such as factor analysis and multidimensional scaling to determine the underlying factors or the general dimensions of emotion or affect in marketing contexts (Dube' and Menon 1998a; Dube' and Menon 1998b; Dube' and Morgan 1998; Edell and Burke 1987; Havlena and Holbrook 1986; Mano and Oliver 1993; Oliver and Westbrook 1993; Richins 1997; van Dolen, Lemmink, Mattsson, and Rhoen 2001; Westbrook 1987). While this research has helped to establish the basic dimensions of consumption emotions, several marketing researchers have suggested that future research in consumption emotions must address specific emotions as well as determine the antecedents of these emotions (Bagozzi, Gopinath, and Nyer 1999; Nyer 1997b; Richins 1997; Westbrook 1987). Further, marketing researchers have suggested the usefulness of the cognitive appraisal theory framework to explore possible antecedents of emotions (Bagozzi et al. 1999; Kumar and Oliver 1997). This theoretical framework assumes that particular cognitive perceptions of the environment produce specific emotional responses. While a few researchers have used the cognitive appraisal paradigm in their conceptualizations and empirical models (MacInnis and de Mello



forthcoming, 2004; Nyer 1997b; Ruth, Brunel, and Otnes 2002), only MacInnis and de Mello's work focuses on one of the emotions addressed in this dissertation—hope.

A further contribution this research makes to the marketing literature is the recognition that emotions other than satisfaction may occur at the post-consumption stage—when the outcome of the product or service is known. Reactions at the post-consumption stage have most often been associated with Oliver's disconfirmation model (1981). In this model, the assumption is that the customer is satisfied if the product or service outcome surpasses his/her expectations (positive disconfirmation). Other possible consequences are dissatisfaction, which occurs when the outcome falls short of his/her expectations (negative disconfirmation), and “just satisfied,” which occurs when there is no difference between the outcome and one's expectation (simple confirmation). Thus, research that addressed satisfaction has most often been conceptualized as a bi-polar, one-dimensional construct. However, the research presented here suggests that one's emotional reactions at the conclusion of a product or service experience may be more complex. Specifically, this research proposes that emotional reactions to a consumption-related event that was expected include not only satisfaction but also the emotions of disappointment, relief, and anguish (Ortony et al. 1988). In situations in which an upcoming/uncertain event is expected to be *pleasurable* (i.e., receiving a wanted birthday gift), satisfaction will be evoked if the event does occur, while disappointment will be evoked if the event does not occur. On the other hand, in situations in which an upcoming event was expected to be *painful* (i.e., missing your connecting flight), anguish will be evoked if the event does occur, while relief will be evoked if the event does not occur.

Thus, this dissertation introduces to the marketing literature emotions other than satisfaction that occur at the post-consumption stage.

### **Organization of the Dissertation**

This dissertation will be organized as follows. First, Chapter II will present an overview and critique of the conceptual and empirical work that focuses specifically on suspense. Chapter III focuses on the development of a conceptual model of suspense including its antecedents and its consequences. Chapter IV presents the methodologies and results of two studies that develop scales for hope, fear, and suspense, while Chapter V presents the methodology and results of an experiment that tests select antecedents leading to suspense. The dissertation concludes with a discussion of the results, the theoretical and managerial implications, and avenues for future research in Chapter VI.

## CHAPTER II

### A REVIEW OF THE SUSPENSE LITERATURE

What is suspense? The *American Heritage Dictionary* (2000) defines suspense as “Pleasurable excitement and anticipation regarding an outcome, such as the ending of a mystery novel,” and as “anxiety or apprehension resulting from an uncertain, undecided, or mysterious situation.” *Merriam-Webster’s* (online version) definitions of suspense are similar: “Mental uncertainty: ANXIETY,” and “pleasant excitement as to a decision or outcome.” Academics’ attempts at defining suspense have proved to be an elusive endeavor, however, and will be discussed later. A formal definition will also be presented. For now, though, these dictionary definitions provide a working understanding of suspense—a positive or negative feeling experienced when one is uncertain about an upcoming outcome or event.

Suspense is an important concept in entertainment. For film writers/directors and novelists, suspense is a major, perhaps *the* major, factor in successful dramatic narratives (Vorderer and Knobloch 2000; Vorderer, Wulff, and Friedrichsen 1996). Whether the genre is a western, action, romance, horror, or thriller, suspense is the element that keeps the audience on the edge of their seats and supposedly makes the experience more enjoyable. While suspense has been regarded as an important element in entertainment and drama for years, only recently have academics begun to study it (Carroll 1984). Researchers in the literary and mass communication disciplines have made gradual progress over the last 30 years in conceptualizing and empirically testing models dealing with suspense.

Although suspense is most often considered and has been most often studied within the context of a fictitious narrative, such as a novel, a film, and even an advertisement, suspense can also take form in “real life.” A person can feel suspense in numerous real-world situations. “Will my flight be cancelled?” “Do we have termites?” “Will the wedding go as planned?” “Will I win the eBay auction?” “Will my team win the bowl game?” Each of these situations would elicit suspense.

Furthermore, marketers would greatly benefit from having a firm understanding of suspense. Any company or organization that helps their customers achieve dreams or avoid catastrophes would benefit by understanding suspense. As will be discussed in detail later, suspense involves situations in which a person is attempting to reach a state of well being. In other words, it involves circumstances in which a person would like to achieve a desired state or/and would like to avoid a negative state. Because one of the main objectives of marketing is to provide customer satisfaction, or to help customers achieve these states of well-being, suspense is very relevant to marketers. Suspense can shed light on consumption experiences associated with possible positive states—customer dreams. For instance, suspense can explain why participating in an Internet auction or watching one’s favorite team in the Super Bowl are so exciting. Suspense can also be used to better explain the consumption experiences associated with possible negative states—customer catastrophes. For example, suspense can illuminate the anxiety- and fear-filled experiences associated with the possibility of one’s flight being cancelled or of one’s home being infested with termites. Finally, suspense can provide insight on the unique situation in which positive *and* negative states are possible—in

which either a customer dream *or* catastrophe is imminent. An example of this might be the experience of planning a wedding, in which if all goes well, the wedding will be dazzling, but if all does not go well, the wedding may be a disaster! In sum, suspense can play a role in numerous consumption situations and, thus, is an important concept for marketers to understand.

The following chapter will focus on the research specifically devoted to suspense. Different definitions of suspense will first be considered. Next, the conditions that illicit suspense will be discussed, which will differentiate suspense from other literary concepts such as surprise and curiosity. Following this, a discussion of the consequences of suspense will be provided; mainly that suspense increases enjoyment of a narrative. Finally, various operationalizations of suspense, in terms of both measurements and manipulations, will be considered, which underscore the problems in how suspense has been conceptualized. Overall, this review will show that, while the suspense literature has made some ground, there is much disagreement on what suspense actually is, what causes it, and, thus, how it should be measured and/or manipulated.

### **Definitions of Suspense**

The trouble with suspense is that few people know what it is.

—*Alfred Hitchcock*

This Hitchcock quote (cited in Mattenklott 1996, p. 283) best sums up the current state of conceptualizations of suspense in the academic literature. While the dictionary definitions at the beginning of this chapter served as a starting point from which to conceptualize suspense, academics' attempts at presenting a valid description of the

suspense construct have not made much progress in the past 30 years. Mirroring Hitchcock's assessment, Friedrichsen (1996) noted the current confusion in defining suspense: "The consideration of the phenomenon of suspense from a social-scientific point of view holds a considerable problem that may be phrased in one simple question: What is suspense anyway? To the present day, a clear, generally valid definition has not been submitted" (p. 329).

While there are many points of agreement among theorists, the basic tenets of suspense cannot be reduced a few factors (Friedrichsen 1996). Table 2.1, which lists several definitions of suspense, provides an illustration of this. Specifically, these definitions, as well as more complete conceptualizations, suggest several themes: that there is agreement that suspense is emotional in nature, that there is disagreement concerning the specific emotional content of suspense, and that several definitions of suspense actually contain the antecedents of suspense, a practice that is not appropriate when defining theoretical constructs.

### *Suspense Is Emotional*

One factor that suspense theorist do seem to agree upon is that suspense is an emotional experience (Alwitt 2002; Barnet et al. 1971; Carroll 1996; de Wied, Tan, and Frijda 1992; Kassler 1996; Mikos 1996; Ortony et al. 1988; Sternberg 1978; Vorderer and Knobloch 2000; Vorderer et al. 2001; Wuss 1996; Zillmann 1996). As can be seen in Table 2.1, 12 of the 15 definitions presented include a derivative of the word "emotion" or "affect" or state a specific emotion (those that do not are Bryant et al. 1994; White 1939; Wulff 1996). For instance, Carroll (1996) asserted that, "Suspense, in general, is an

**TABLE 2.1**  
**Definitions of Suspense**

Author(s)	Definitions of Suspense
Alwitt (2002)	" <i>Suspense</i> is a cognitive and emotional reaction of a viewer, listener, or reader that is evoked by structural characteristics of an unfolding dramatic narrative" (p. 35).
Barnet, Berman, Burto (1960) [ <i>A Dictionary of Literary Terms</i> ]	"Uncertainty, often characterized by anxiety. <i>Suspense</i> is usually a curious mixture of pain or pleasure" (p. 83). [Cited in Chatman 1978]
Bryant, Rockwell, and Owens (1994)	"... <i>suspense</i> is viewed, on its simplest terms, as a high degree of certainty of a negative outcome."
Caplin and Leahy (2001)	"...we define <i>suspense</i> as the pleasure experienced immediately prior to the anticipated resolution of uncertainty, and posit that it is positively related (up to a point) to the amount that is at stake on the outcome of an event" (p. 73).
Carroll (1984)	"... <i>suspense in film</i> is a) an affective concomitant of an answering scene or event which b) has two logically opposed outcomes such that c) one is morally correct but unlikely and the other is evil and likely" (p. 72).
Carroll (1996)	" <i>Suspense</i> , in general, is an emotional state. It is the emotional response that one has to situations in which an outcome that concerns one is uncertain... If I believe that an outcome that I care about is uncertain, then suspense is in order" (p. 84)
de Wied, Tan, and Frijda (1992)	" <i>Film suspense</i> can be described as an anticipatory emotion, initiated by an event which sets up anticipations about a forthcoming (harmful) outcome event for one of the main characters" (p. 325).
Mikos (1996)	"It [ <i>suspense</i> ] involves a complex network of spectators' cognitive and emotional activities that might have been stimulated by various textual characteristics" (p.37).
Ortony, Clore, and Collins (1989)	"We view <i>suspense</i> as involving a Hope emotion and a Fear emotion coupled with the cognitive state of uncertainty" (p. 131).
Pine and Gilmore (1999)	"...customer <i>suspense</i> is the gap between what the customer remembers from past surprises and what he <i>does not yet know</i> about upcoming events" (p. 99).

TABLE 2.1 (Continued)

Author(s)	Definitions of Suspense
Sternberg (1978)	“... <i>suspense</i> derives from a lack of desired information concerning the outcome of a conflict that is to take place in the narrative future, a lack that involves a clash of hope and fear...” (p. 65). Also, suspense is “...Sustained by the clash of intermittently aroused hopes and fears (both being emotively and/or ethically colored hypotheses) about the outcome of the future confrontation” (p. 65).
Tan and Diteweg (1996)	"The experience of <i>suspense</i> involves an emotional response, a state of fearful apprehension. Fearful apprehension may be seen as a prospect-based emotion, a class of emotions including hope, fear, and others, characterized by prospects in the stimulus of events that seriously harm or benefit the subject (Ortony, Clore, & Collins, 1988)" (p. 151).
Vorderer and Knobloch (2000)	“ <i>Suspense</i> is as an emotion evolves during the anticipation of that crucial outcome. In contrast to other types of drama, the suspenseful drama avails itself of only two outcomes, which are logically contrary to one another” (p. 63).
Vorderer, Knobloch, and Schramm (2001)	"In a typical drama situation, when the character's failure becomes likely, they may even feel empathetic stress, a rather negative emotional experience better known as <i>suspense</i> ” (p. 344).
White (1939)	" <i>Suspense</i> is a continuous state of ungratified curiosity, and so keeping up the suspense is a matter of prolonging such a state...Suspense, being sustained curiosity, prolongs the change of experience that curiosity provides from the uninquisitive state that preceded curiosity" (p. 40).

*emotional* state. It is the *emotional* response that one has to situations in which an outcome that concerns one is uncertain” (p. 84, emphasis added). Similarly, Vorderer and Knobloch (2000) note that, “Suspense is as an *emotion* evolves during the anticipation of that crucial outcome,” (p. 63, emphasis added), and Tan and Diteweg (1996) state that it “involves an *emotional* response” (p. 151, emphasis added). Additionally, several



theorists have specifically noted that suspense is more than simply a cognitive reaction; additionally, it is emotional. As shown in Table 2.1, Alwitt (2002) stated, “Suspense is a *cognitive and emotional* reaction of a viewer” (p. 35). Similarly, Mikos (1996) concurs, noting that suspense involves “a complex network of spectators' *cognitive and emotional* activities” (p. 37, emphasis added). Conceptualizations of suspense also note the more-than-cognitive idea that also includes emotion. For instance, Wuss (1996) stated, “... the tension that arises shortly before the denouement may also be experienced by viewers as a personal feeling of emotion. Indeed, the processes of film experience, which have normally been described here as plot-based and seen from a *cognitive* aspect, also have a clear *emotive* dimension” (p. 53, emphasis added). Vorderer (1996) also makes a statement that suspense, in addition to cognitive processes, is elicited by motivational elements, which implies that suspense is an emotional experience. Specifically, he stated, “Without the assumption that viewers not only *perceive, anticipate, conclude, evaluate,* and so on, but also always *prefer, desire, or want* something... suspense cannot be psychologically understood or explained” (p. 246, emphasis added).

### ***Negative Versus Positive Emotion***

While theorists agree that emotion is a fundamental component of suspense, they cannot agree on its specific emotional content. Specifically, disagreement exists concerning whether suspense is comprised of (1) *only* negative emotion, such as fear, apprehension, or distress, (2) *only* positive emotion, such as hope, anticipation, or excitement, (3) *both* negative and positive emotion, (4) or *either* negative or positive emotion.

The majority of suspense theorists agree that suspense is a *negative* emotion, as can be seen in Table 2.1, and these researchers have all concentrated on dramatic suspense, rather than a real life instance of suspense. Zillmann (1996), arguably the most influential of suspense researchers, believes that dramatic suspense is driven by *negative affect*—“it thrives on fear—empathetic fear, to be precise” (p. 203). Tan and Ditlew (1996) also state that suspense consists of negative emotion: “The experience of suspense involves an emotional response, a state of *fearful apprehension*” (p. 151, emphasis added). Further, Vorderer et al. (2001) believe that suspense is associated with negative affect: “In a typical drama situation, when the character's failure becomes likely, they may even feel empathetic stress, a rather *negative emotional experience* better known as suspense” (p. 344, emphasis added). Furthermore, although some theorists do not explicitly state the emotional content of suspense, a large majority of their conceptualizations imply that suspense entails negative emotion. As will be discussed later, most suspense theorists believe suspense is invoked by the high probability of a *negative* outcome. This notion implies that the reader or viewer will experience a *negative* emotion, particularly fear, when watching or reading suspenseful narratives.

The notion that suspense is a *positive* emotion or experience is one that has recently been proposed by business and economic researchers. For instance, Caplin and Leahy (2001) have defined suspense as “...the pleasure experienced immediately prior to the anticipated resolution of uncertainty” (p. 73). Further, Pine and Gilmore (1999) define customer suspense in their popular business press book, *The Experience Economy*, as “the gap between what the customer *remembers* from past surprises and what he *does not*

*yet know* about upcoming events” (p. 99). Although their definition does not reflect their positive interpretation of suspense, the fact that they suggest companies use suspense to increase customer satisfaction implies that they believe suspense is a positive experience.

On the other hand, some theorists view suspense as a combination of positive *and* negative emotion. Ortony et al. (1988), who are mainly emotion—not suspense—scholars, state that suspense involves “a *Hope* emotion and a *Fear* emotion coupled with the cognitive state of uncertainty” (p. 131, emphasis added). Sternberg (1978) makes a similar argument, stating that, “... suspense derives from a lack of desired information...that involves a clash of *hope* and *fear*...” (p. 65, emphasis added). Additionally, Barnet, Berman, Burto’s (1960, cited in Chatman 1978) also believe that suspense is “a curious mixture of pain or pleasure” (p. 83).

Finally, while Zillmann (1996) proposes that *dramatic* suspense thrives on fear (as just mentioned), he contends that *general* suspense can vary in its hedonic value from “noxious to pleasant” (p. 200). Thus, Zillmann’s conceptualization of “real life” suspense suggests that suspense can be comprised of *either* positive or negative feelings.

Although Zillmann (1996) believes that dramatic suspense involves mostly fear, or negative affect, asserting that dramatic suspense contains only a negative emotion may be a short-sided observation. Hitchcock, known as the “Master of Suspense,” has noted that suspense may not contain fear. Specifically, in an interview with Truffaut (1966), he stated that, “There is no relation [to fear] whatsoever” (p. 50). Hitchcock mentioned a suspenseful scene in which a telephone operator overhears a couple discussing marriage: Will the woman marry the man? This situation would *not* be considered *fearful*. Rather,

the operator would likely feel *positive* emotion as she waited to hear the woman's response. Thus, according to Hitchcock's example, although dramatic suspense is *most often* associated with fear, suspense need not *only* contain fear. In sum, scientific definitions of suspense are not in agreement on the basic emotional content of suspense.

### ***Definitions Using Antecedents***

An additional problem with the conceptualizations of suspense is that the suspense construct is often defined by its conditions or by examples (Friedrichsen 1996). Thus, many definitions of suspense are what are called "pseudodefinitions" (Summers 2001). The problem one encounters when defining a construct as the result or cause of another construct is that the relationship between the two constructs cannot be falsified. In such situations, the theoretical linkage is "true by definition" (Summers 2001, p. 407). Table 2.1 provides several examples in which the suspense construct is defined by its antecedents. Specifically, several theorists have defined suspense as uncertainty, certainty, or probability (Barnet et al. 1960, Bryant et al. 1994; Ortony et al. 1988; Zillmann 1996). This is problematic because many consider or have treated uncertainty, certainty, or probability as an *antecedent* of suspense (as will be discussed) (Alwitt 2002; Brewer 1996; Bryant et al. 1994; Carroll 1984; Carroll 1996; Comisky and Bryant 1982; Hoeken and van Vliet 2000; Kessler 1996). For instance, Bryant et al. (1994) defined suspense as follows: "...suspense is viewed, on its simplest terms, as a high degree of *certainty* of a negative outcome" (p. 328, emphasis added). Yet, in this same article, the authors manipulate the degree of *certainty* in their experiment.

Additionally, Kassler (1996) illustrates the problem of confusing the suspense construct with its antecedents. In one study, Kassler had participants define suspense by responding to the following statement/question: "Write a definition of suspense. That is, what makes a film suspenseful?" The first sentence alone may have provided valid responses from the participants on the meaning of suspense itself. However, asking participants to identify the elements that make a film suspenseful is essentially asking them to identify the antecedents of suspense. In other words, it is asking respondents to point out the techniques used by filmmakers that cause them to feel suspense. Accordingly, his content analysis of their responses found that *uncertainty* was a *component* of suspense; yet, uncertainty has been identified as an *antecedent* of suspense.

### ***Summary of Suspense Definitions***

Definitions of suspense are generally consistent on the notion that suspense is an emotional state. However, disagreement is evident concerning the specific emotional content of suspense. Although some theorists perceive suspense as containing a positive emotion, such as hope, the majority of researchers believe suspense is a negative emotion. Finally, many definitions are problematic because antecedents are used to define the construct, a practice that is not appropriate when defining theoretical constructs. Specifically, several definitions mention the notion of probability/uncertainty. This next section provides an explanation of this and other antecedents proposed to influence suspense.

### **Antecedents of Suspense**

What are the elements that elicit suspense? Researchers are in agreement about two factors: (1) uncertainty is a requirement of suspense, specifically uncertainty about a future outcome and (2) this outcome is an important one. Beyond that, however, there is little congruency—including *how* uncertainty impacts suspense and whether this important outcome must have only negative consequences.

A multitude of antecedents have been theorized, as can be seen from Table 2.2, which presents the different antecedents of suspense proposed by several researchers. Some authors have suggested as few as two antecedents, while others have listed up to seven. Not only have some authors provided more antecedents than other authors, even those who only list a few antecedents provide qualitatively different ones. This confusion is also manifested in empirical studies in which a host of conflicting antecedents are tested. A summary of these studies is provided in Table 2.3. One study in particular provides a telling example of the abundance of antecedents: Alwitt (2002) tested a regression model that included 14 antecedents, 11 of which were statistically significant! A careful inspection of Table 2.2, however, hints that there is conceptual overlap among the proposed factors and that they can be reduced to a more manageable number.

Thus, this section will attempt to summarize the major antecedents of suspense. First, the notion that suspense is invoked when one is *uncertain*, particularly uncertain about an outcome, will be presented. This will illustrate how suspense differs from other literary concepts, namely, curiosity and surprise. Next, the notion that the uncertain outcome must be an *important* one will be considered. Two issues that have conflicting

**TABLE 2.2**  
**Proposed Antecedents of Suspense**

Author	Antecedents
Alwitt (2002, p. 36)	<ol style="list-style-type: none"> <li>1. Characters are present, which are the object of a viewer's emotional reaction.</li> <li>2. Involves a plot, which implies a conflict.</li> <li>3. Time pressure or time constraint during which the outcome must be resolved for the protagonist.</li> <li>4. Alternative possible outcomes for character, both favorable and unfavorable.</li> <li>5. Viewers have more information than the protagonists.</li> </ol>
Brewer (1996, pp. 115-116)	<ol style="list-style-type: none"> <li>1. Significant outcomes signaled by initiating event</li> <li>2. Positive or negative potential outcomes</li> <li>3. Good or bad characters—suspense can be felt for either</li> <li>4. Outcome likelihood—likelihood of a negative outcome for protagonist</li> <li>5. Character sympathy</li> <li>6. Outcome resolution (necessary for “successful suspense text,” (p. 116)</li> <li>7. Mini suspense and resolution episodes</li> </ol>
Carroll (1996)	<ol style="list-style-type: none"> <li>1. Morality</li> <li>2. Probability</li> </ol> <p>Or more specifically,</p> <ol style="list-style-type: none"> <li>1. Two opposing outcomes</li> <li>2. The opposition is made salient (to preoccupy the audience's attention).</li> <li>3. One of the alternative outcomes is morally correct (i.e., good) but improbable</li> <li>4. The other outcome is morally incorrect (i.e., evil) but probable.</li> </ol>
Comisky and Bryant (1982)	<ol style="list-style-type: none"> <li>1. Disposition toward characters (care for protagonist)</li> <li>2. Outcome-uncertainty (high likelihood that the protagonist will be harmed)</li> </ol>
Gan, et al. (1997)	<ol style="list-style-type: none"> <li>1. Closeness of a game score in a sports match.</li> </ol>
de Wied (1994)	<ol style="list-style-type: none"> <li>1. Disposition toward characters (care for protagonist)</li> <li>2. Outcome uncertainty (high likelihood that the protagonist will be harmed)</li> <li>3. Duration of harm anticipation</li> </ol>
Gerrig and Bernardo (1994)	<ol style="list-style-type: none"> <li>1. Diminishing possibilities for the protagonist's escape from harm</li> </ol>
Hoffner and Cantor (1991)	<ol style="list-style-type: none"> <li>1. Degree of foreshadowing</li> <li>2. Outcome-uncertainty (high likelihood that the protagonist will be harmed)</li> <li>3. Disposition toward characters (care for protagonist)</li> </ol>

TABLE 2.2 (Continued)

Author	Antecedents
Kassler (1996)	<ol style="list-style-type: none"> <li>1. Time delay</li> <li>2. Uncertainty (degree of optimal uncertainty is not offered)</li> <li>3. Affect/emotion</li> <li>4. Identification</li> <li>5. Morality</li> <li>6. Anomalous Suspense (suspense can be experienced on 2<sup>nd</sup> viewing—i.e., under conditions when there is presumably no uncertainty)</li> </ol>
Tan and Diteweg (1996)	<ol style="list-style-type: none"> <li>1. Initiating event raises expectations about the outcome.</li> <li>2. Outcome has relevance for protagonist's fate—perceived as threat</li> <li>3. Outcome is perceived to be imminent, will eliminate threat, and is uncertain.</li> <li>4. Fate of protagonist is relevant to viewers. Viewers care about protagonist.</li> <li>5. Viewers feel unable to act.</li> <li>6. Viewers respond emotionally with fear in anticipation of the unfavorable outcome.</li> <li>7. Viewers respond with increased interest and tension.</li> </ol>
Zillmann (1996)	<ol style="list-style-type: none"> <li>1. Liking of the protagonist.</li> <li>2. Magnitude of harm of antagonist</li> <li>3. Certainty, but just short of certainty (i.e., 99.9%), of harmful outcome</li> </ol>

viewpoints will then be covered. First, the issue of the amount of uncertainty needed for maximal feelings of suspense will be discussed. Second, the question of whether the outcome must have only negative consequences, as opposed to only positive consequences or both negative and positive consequences, will be reviewed.

Before considering the antecedents of suspense, one matter must be brought forth. As will be discussed, suspense is expected to lead to the *enjoyment* of a narrative. Thus, suspense has been conceptualized to *mediate* the variables presented in this discussion and enjoyment. Additionally, several variables have been proposed and shown to have a



*direct* effect on *enjoyment* of narratives and other experiences, such as sporting events. Because the variables leading to suspense are similar to those leading to enjoyment, it is likely that suspense may be serving as a mediator in the proposed “enjoyment antecedents”-“enjoyment” relationships. For instance, a positive *disposition* toward the protagonist is expected to lead to *suspense*. Similarly, the positive *disposition* toward the favored sports team has been hypothesized to lead to *enjoyment* of a game (Zillmann, Bryant, and Sapolsky 1989). Thus, it may be that enjoyment is increased because the sports game is more suspenseful, which was caused by a stronger positive disposition toward the favored sports team. Furthermore, *suspense* researchers have suggested all of these “enjoyment” antecedents (even though suspense was not specifically discussed). Thus, these “enjoyment” antecedents will be discussed and related to similar “suspense” antecedents. Additionally, the fact that the “enjoyment” antecedents are proposed to lead to increased enjoyment and *not* increased suspense will be clearly noted. These studies have also been identified in Table 2.3.

### ***Uncertainty***

One antecedent, or more specifically, condition, that suspense researchers agree upon, is the notion that uncertainty is a required element of suspense (Carroll 1996; Ortony et al. 1988; Zillmann 1996). Carroll (1996) best summarizes this: “Uncertainty is a necessary condition for suspense. When uncertainty is removed from a situation, suspense evaporates. Putatively, if we come to know that the heroine will not be sawed in half, or that she will be, then we should no longer feel suspense” (p. 72). Comisky and Bryant (1982) demonstrated this in their study. They manipulated the likelihood that the

**TABLE 2.3**  
**Summary of Empirical Research on Suspense**

<b>Authors</b>	<b>Theoretical Framework</b>	<b>Method/ Study Context</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Major Findings</b>
Alwitt (2002)	Suspense	Study 1—Content analysis—4 judges coded commercials on suspensefulness and 14 antecedents that supposedly create suspense	Main character, plot, time pressure, suspenseful music, interesting music, conflict, anticipation of something negative, uncertain about outcome of main character, etc.	Suspense, curiosity, surprise	Results showed that 11 of the 14 predictors of suspense were significant at .05. Best predictors were: Time pressure, morally correct outcome, music, anticipation that something negative to the main character, outcome uncertainty, plot, conflict
	Suspense	Study 2—Experiment—watched 6 commercials (3 suspenseful and 3 nonsuspenseful). (n = 28; college students)	Hope versus fear felt toward characters indicated by moving a dial (to the left—fear; to the right—hope)	Suspense, curiosity, surprise, perceived commercial length, attitude toward the brand, attitude toward the ad	Compared to nonsuspenseful ads, suspenseful ads were judged as having more suspense. Range, standard deviation, and number of “runs” were significantly larger. Attitude toward the suspenseful ads were higher.

TABLE 2.3 (Continued)

Authors	Theoretical Framework	Method/ Study Context	Independent Variables	Dependent Variables	Major Findings
Alwitt (2002) (continued)	Suspense	Study 3— Experiment— Watched 2 commercials, one suspenseful, one not suspenseful (n = 66; college students)	Same as study 2: Hope versus fear felt toward characters indicated by moving a dial (to the left-- fear; to the right--hope)	Suspense, perceived commercial length, attitude toward the brand, attitude toward the ad	Range, standard deviation, significantly higher for the suspenseful ads as compared to the nonsuspenseful. Total number of runs was positively correlated with attitude toward the ad, and the hope-fear range was positively correlated with the attitude toward the brand.
Brewer and Lichtenstein (1981)	Structural- Affect Theory	Experiment— Participants read different version of stories, stopping at 4 different points to make suspense and surprise ratings (n = 103; college students)	Story structure (Control [no initiating event nor outcome], suspense- standard [initiating event and outcome], suspense- foreshadowing, suspense- misarranged events, suspense with no outcome [initiating event but no outcome], surprise [outcome but no initiating event])	Suspense and surprise at 4 different points during the reading of the story; Overall liking, satisfaction with the outcome, and whether narrative was perceived as a story measured at conclusion of story	Suspense versions were rated higher on suspense than the control version. They showed an increase in suspense except for the resolution, in which suspense ratings dropped. Overall story liking and outcome satisfaction was rated higher for suspense version than control version.
Bryant, Brown, Comisky, and Zillmann (1982)	Conflict/drama /suspense	Experiment— Participants watch tennis match (n = 60; college students)	Relationship between tennis players (control, best friends, bitter rivals)	Appreciation of play: enjoyable, exciting, involving, interesting; Perception of players: hostile, tense, competitive	Subjects much preferred the rivalry game over the other 2 conditions and thought that game was more hostile, tense, and competitive

**TABLE 2.3 (Continued)**

<b>Authors</b>	<b>Theoretical Framework</b>	<b>Method/ Study Context</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Major Findings</b>
Bryant, Comisky, and Zillmann (1981)	Conflict/drama/violence	Experiment— Participants watch and rate 45 football plays (n = 76; college students)	Degree of Violence/roughness for play (low, medium, high); Type of play (pass, run); Gender	Enjoyment of play (degree to which it was “liked”)	For males, enjoyment of plays increased as degree of violence/roughness increased. Significant difference between type of play (although not specified).
Bryant, Rockwell, and Owens (1994)	Disposition Theory of Sportsfanship and Suspense	Participants watched different version of the same high school football game (n=104; college students)	Suspense (low [uneventful plays, boring color commentary], high [exciting plays and color commentary]); Outcome (favorable, unfavorable); Gender	Enjoyment: At varied times; enjoyment (overall); boredom (overall); Suspense and disposition measured for manipulation checks	Overall enjoyment: Main effect for suspense and gender. No main effect for outcome. No interaction effects. Intermittent enjoyment effect for suspense and outcome.
Comisky and Bryant (1982)	Disposition; Suspense	Experiment— Participants viewed films with differing voiceovers explaining situation (n = 150; college students)	Outcome-uncertainty (0/100, 1/100, 25/100, 50/100, 100/100); Disposition toward protagonist (neutral, mildly positive, strongly positive)	Suspense: How suspenseful was this segment?	Main effects for outcome uncertainty and disposition and an interaction effect.
de Wied (1991) (cited in de Wied, Tan, and Frijda 1992)	Expectancy/contrast model	Experiment— Participants read different versions of stories	Pace of film (compressed [faster], elicited [slower])	Perceived time before outcome resolution shot	Compressed version was perceived as longer

TABLE 2.3 (Continued)

Authors	Theoretical Framework	Method/ Study Context	Independent Variables	Dependent Variables	Major Findings
de Wied (unpublished) (cited in de Wied, Tan, and Frijda 1992)	Expectancy/contrast model	Experiment— Participants read different versions of stories of varying pace in “introduction scene” and varying lengths in “suspense scene”	Pace of film (slow, medium, fast pace); Length of suspense scene (19, 113, 148 seconds)	Perceived duration of suspense scene (much longer/much shorter, 9-point); Longer or shorter relative to a standard film; temporal expectancies (outcome shot much earlier/much later)	The faster the pace of “introduction scene” the longer the perceived duration of the “suspense scene”. However, there were no effects of temporal expectancies.
Gan, Tuggle, Mitrook, Coussement, and Zillmann (1997)	Suspense, Drama Theory, Disposition Theory of Sportsfanship	Field study— Participants watched live NCAA tournament game (n= 105; college students)	Suspense (determined by final point spread, 4 levels); Gender; Rooted for winner vs. loser; Disposition; Expectations; Rooting intensity; Expected margin.	Enjoyment: 10 items on 11-point scale: Made me feel bad, irritated me, relaxed me, etc.; Rooting intensity; exp (composite of 7 items used in subsequent analyses)	Main effect for suspense and rooted for winner/loser. Suspense-gender interaction. Suspense and disposition explained 30.4% of variance in enjoyment.
Gerrig and Bernardo (1994)	Problem solving and suspense	Experiments— Participants read passages from James Bond novel	In seven experiments, the range of escape possibilities was manipulated	Likelihood that Bond would escape; suspense of passage read (both 7-point scales)	Suspense was rated higher when the solutions to escape were more limited
Hoeken and van Vliet (2000)	Structural-Affect Theory	Experiment— Participants read different version of a story (n = 91; college students)	Outcome known (yes, no); Surprising ending (yes, no); Happy ending (yes, no)	Story appreciation using 8 items; suspenseful; surprising; other cognitive related items	Story with an unknown outcome, a surprising event and a happy ending were rated higher than the other stories. No difference in suspense ratings for outcome.

**TABLE 2.3 (Continued)**

<b>Authors</b>	<b>Theoretical Framework</b>	<b>Method/ Study Context</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Major Findings</b>
Hoffner and Cantor (1991)	Suspense; Disposition; Excitation Transfer Theory	Experiment—Participants viewed video about boys encountering a snake (n = 186; 5-7, 9-11 year olds)	Outcome (positive resolution, no resolution); Forewarning of threat (yes, no); Gender	Scared; Worried; Liking of character; Liking of ending; Liking overall; Skin temperature; Heart rate	Liked ending, but not program, better when resolved. Forewarning had no effect, suggesting suspense did not mediate.
Jose (1988)	Structural-Affect Theory/Suspense	Experiment—Participants were presented with read or written stories (n = 143; elementary school and college students)	Goal importance (high, low); Goal attainment difficulty (high, low); Age (4 groups)	Story liking; “storyhood”	Stories with more important goals and those that were difficult were preferred. No interaction effect reported.
Jose and Brewer (1984)	Structural-Affect Theory	Experiment—Participants read different versions of a suspenseful stories and rate them (n = 172; elementary school students)	Character gender; Character age (adult, child); Character valence (good, bad); Outcome valence (positive, negative)	Perceived similarity, liked character, become character, suspense, like outcome, like story, care about character, exciting, surprising, sad	Increased identification leads to greater suspense. Overall liking of story increases with greater identification, greater suspense, and greater liking of outcome.
Jose and Brewer (1990)	Structural Affect Theory	Experiment—Participants were read differently structured stories (n = 27; elementary school children)	Story type (mundane story, mundane story with excitement added; suspense story)	Story liking on a 7-point scale; Ranking of 3 stories; which story to hear again?	Children preferred the suspense story the most, particularly the older 2 <sup>nd</sup> graders

**TABLE 2.3 (Continued)**

<b>Authors</b>	<b>Theoretical Framework</b>	<b>Method/ Study Context</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Major Findings</b>
Kassler (1996) (Dissertation)	Suspense	Study 1—Participants defined suspense and rated movies on suspense (n = 35; college students)		“Write a definition of suspense. That is, what makes a film suspenseful?” Rated 126 films on 6-point scale.	Definition--2 main factors emerged: Uncertainty and affect. 10 most and least suspenseful films. Top 5: The Fugitive, Apollo 13, Silence, Cape Fear, Hand that Rocks the Cradle.
	Suspense	Study 2—Experiment— Manipulation check: Participants read manipulated stories (n= 28; college students)	Manipulated variables: Character valence; Motivation; Outcome; (Good, bad for each variable)	Measured variables: Character valence; motivation; outcome; (Good to bad scale)	All manipulations were significant at .01 level.
	Suspense	Study 3—Experiment— Participants read manipulated stories (n= 28; college students)	Manipulated variables: Character valence; Motivation; Outcome; (Good, bad for each variable)	Suspense—“As you read this text, how much suspense did you feel?”	Main effect ( $p < .05$ ) for outcome. Marginal effect ( $p = .06$ ) for character valence (in wrong direction. [Note: Poor manipulations.]
	Suspense	Study 4—Experiment— Participants read manipulated stories (n= 48; college students)	Same as above experiment except that the used the top 3 most and least favorite actors/actresses as protagonist.	Suspense (see Study 3)	No significant effects. When data of Ex. 3 and 4 were combined, the more familiar with the actors/actresses, the less suspense.
	Suspense	Study 5—Not true experiment—Participants watch 15 movie clips (n=27; college students)	Measured variable: Probability of a negative outcome	Suspense (see Study 3); familiarity with clip; ability to name movie of clip	Probability had an effect on suspense ( $p < .01$ , $R^2 = .75$ ). Familiarity with the clip did not have an effect.

**TABLE 2.3 (Continued)**

<b>Authors</b>	<b>Theoretical Framework</b>	<b>Method/ Study Context</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Major Findings</b>
Kassler (1996) (Continued)	Suspense	Study 6—Not true experiment— Participants watch 15 movie clips (n=20; college students)	Measured variables: Probability of a negative outcome; protagonist liking; antagonist liking	Suspense (see Study 3); familiarity with clip; ability to name movie of clip	Suspense affected by probability of negative outcome ( $p < .01$ ; $R^2 = .71$ ) and protagonist liking ( $p < .01$ ; $R^2 = .51$ ). Multiple $R^2 = .90$ . For those familiar with film, only protagonist liking had an effect.
	Suspense	Study 7—Participants watch 15 movie clips twice, with the second viewing 48 hours later (n=29; college students)		Suspense (2 measures; once after each viewing) familiarity with clip	Suspense ratings were significantly higher on the first rating. Those who had not seen it previously showed no difference between those that had. Suspense ratings higher the longer the clip.
Mullet, Hermand, Sastre, Nisot, and Rusineck, (1994)	Economic psychology, gambling	Study 1— Experiment— Participants were presented cards with different combinations of values and probabilities (n=31; French and Spanish college students)	Monetary Value (2,000, 6,000, 8,000, 9,000, 10,000 francs) Probability (7 levels ranging from 10% to 70%, and unknown probability)	Suspense—One item, measured after participant saw card	Higher monetary values produced most suspense. Suspense was highest when probability was unknown, followed by when it was at maximal uncertainty. (50% probability). Participants responded to probability differently.



TABLE 2.3 (Continued)

Authors	Theoretical Framework	Method/ Study Context	Independent Variables	Dependent Variables	Major Findings
Mullet, Hermand, Sastre, Nisot, and Rusineck, (1994) (Continued)	Economic psychology, gambling	Study 2—Same as Study 1, except participants were told they could win cinema tickets and spun a roulette wheel (n=20; French college students)	Monetary Value (10,000, 30,000, or 50,000 “points”) Probability (10%, 30%, 50%, 70%, unknown)	Suspense—One item, measured after participant was shown stimulus and <i>before</i> participant spun roulette wheel in Study 2	Higher monetary values produced most suspense. No main effect for probability, although as probability increased, suspense decreased. Highest when probability was unknown. Participants responded to probability differently.
Nomikos, Opton, Averill, and Lazarus (1968)	Stress	Experiment— Participants watch 3 milling accident scenes (n = 52; college students)	Anticipation length (long [“suspense”], short [“surprise”]— shortened by removing scenes in which fingers approach a blade, etc.)	Physiological stress: heart rate, skin conductance; Self-reported stress	1) Long anticipation was more stressful than short anticipation. 2) Most of the stress occurs before confrontation rather than during it.
Sapolsky (1980)	Disposition Theory of Sportsfanship and Suspense	Experiment— Participants watch ending of a basketball game between an all black team and an all white team (n = 94; college students)	Suspense (high suspense [announced score as 67-66], low suspense [announced score as 73-45]; Race (black, white)	On the whole, enjoyment of watching game; how pleased/upset with game outcome; various basketball related questions	Blacks were more pleased when blacks won; whites were more pleased when whites won. Whites enjoyed the high suspense game more so than the less suspenseful game. No effect for blacks.

**TABLE 2.3 (Continued)**

<b>Authors</b>	<b>Theoretical Framework</b>	<b>Method/ Study Context</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Major Findings</b>
Vorderer, Knobloch, and Schramm (2001)	Interactivity; Disposition	Experiment— Participants watched a 30 minute film (n = 427; ages 14-49)	Interactivity (low, medium, high); Parasocial relationship (yes, no); Cognitive ability	Suspense: Overall and throughout film; Empathy: 1 item measured 4 times; Overall movie Evaluation	Those with higher cognitive capacity preferred, felt more suspense, and the version with the most interactivity.
Zillmann, Bryant, and Sapolsky (1983)	Disposition Theory of Sportsfanship	Football game –survey (Final score: Vikings 28- Cardinals 24)	Disposition toward Vikings; Disposition toward Cardinals (both measured, then dichotomized for ANOVA)	Enjoyment of every play (measured from – 50 to 50); Enjoyment of entire game	Those who loved the Vikings and disliked the Cardinals had the maximal enjoyment (M=19), while those who hated the Vikings and loved the Cardinals had the maximal "disappointment" (M=-33)
Zillmann, Hay, and Bryant (1975)	Suspense; Excitation-transfer	Experiment— Participants watched narrated story of cartoon drawings (n = 60; 7 and 8 year olds)	Suspense: (low, medium, high); Outcome (resolved, unresolved)	Appreciation of story; interview with child (coded); child's faction expression; heart rate; skin temperature	Found that suspense had a main effect on appreciation of story. No interaction effect with suspense and outcome.

protagonist would be harmed. As can be seen in Table 2.3, the authors found that the condition in which the probability of the negative outcome was *certain* produced significantly *less* suspense than when the probability was very high yet *not certain*. More convincing is Brewer and Lichtenstein's (1981) study. Participants read suspenseful stories and rated them on suspense at four different points throughout the story. As shown in Table 2.3, results showed that once the outcome was revealed, and, thus, the reader was no longer uncertain, suspense ratings dropped dramatically. Nomikos, Opton, Averill, and Lazarus's (1968) results show a similar pattern, although they measured physiological stress rather than suspense. In their study, shown in Table 2.3, participants watched films of milling accidents involving saws. Results showed that the level of stress, indicated by heart rate and skin conductance, increased until the *point of contact* with the saw. Although the accident lasted 10 seconds, stress dramatically decreased several seconds *before* the conclusion of the accident. The authors concluded that, "Most of the stress reaction occurs during the anticipation or threat period, rather than during the actual confrontation when the subject views the accident itself" (p. 207). Thus, the stress existed only when the participant was *uncertain* about whether the accident would occur. The results of these studies, then, provide indirect support that uncertainty must be present to invoke suspense.

Despite the widespread belief that uncertainty is needed to create suspense, many suspense researchers have noted that people feel suspense on subsequent readings or viewings of a narrative (Brewer 1996; Carroll 1996; Gerrig 1997; Kassler 1996). This notion is often referred to as *anomalous suspense*. The phenomenon questions whether

uncertainty is really playing a role in creating suspense because, in situations in which the narrative is being reexperienced, the outcome is *not* uncertain. Thus, people may feel suspense in a subsequent reading or viewing even though they are certain of the outcome. Brewer (1996) has recapped several cognitive processes that may allow for anomalous suspense. He noted some have suggested a willing suspension of memory, or voluntary amnesia, when rereading a story (Gerrig 1989). Vicarious doubt has also been suggested (Lipsky 1956, cited in Brewer 1996). Lipsky distinguished between real doubt and vicarious doubt. Real doubt refers to the viewer/reader's lack of knowledge about the outcome, while vicarious doubt refers to the doubt shared by the viewer/reader and the character due to the viewer/reader's identification with the character. Thus, on a subsequent experience of the narrative, the audience member will be certain about the outcome because real doubt has been eliminated. However, they still might feel suspense through their identification with the character, who *is* uncertain about the outcome. Finally, Brewer suggested that a person's memory limitations might play a part in explaining anomalous suspense. For instance, forgetting the outcome or exactly how the outcome is resolved may explain why people feel suspense on subsequent readings or viewings. Additionally, capacity limitations while experiencing the narrative may prevent an audience member from storing specific information about the story in long-term memory. Despite the notion that suspense can occur even when viewers are certain about the outcome, there is evidence that uncertainty plays a major role in eliciting suspense. The studies mentioned earlier suggest that.

While uncertainty must be present for suspense to exist, many suspense researchers have been more specific in terms of the *type* of uncertainty needed to create suspense. The next two sections note that the uncertainty associated with suspense is uncertainty about a *future* event with *two mutually exclusive outcomes*.

*Uncertainty about a future event.* Suspense researchers have also pointed out that suspense is associated with a specific type of uncertainty—uncertainty about a future event (Carroll 1996; Cupchik 1996; Sternberg 1978; Tan and Ditlewieg 1996). For instance, Carroll (1996) stated that in mysteries, the audience is uncertain about the past, while with suspense narratives, the audience is uncertain about what will happen—the future. Cupchik (1996) has also pointed this out. He asserted that uncertainty could be broken down into two broad classes: uncertainty that revolves around *predicting* future events and uncertainty that revolves around *understanding* ongoing or past events. He contends that suspense is associated with predicting, while curiosity (i.e., mysteries) is associated with explanation.

Similarly, Brewer and Lichtenstein's (1982) structural affect theory implicitly demonstrates that there are different types of uncertainty and that suspense is related to uncertainty about the future. Their theory proposes that the manner in which a narrative's events are arranged evokes three different responses—surprise, curiosity, or suspense. The arrangement of the events in the narrative is referred to as the *discourse structure*, while the actual chronological order of the events is referred to as the *event structure*. As an example, consider the following event structure (taken from Brewer 1996, p. 112-113):

1. *Alfred H. puts a bomb under a table.*
2. *Three men come into the room.*
3. *The men begin playing cards on the table.*
4. *The men talk about the weather.*
5. *The bomb goes off killing the men.*

The authors propose that with suspense, the discourse and the event structures are the same. Thus, events 1 through 5 as listed above would comprise the discourse structure for a suspense narrative. More specifically, Brewer and Lichtenstein (1982) propose that *suspense* is created when an *initiating event* is included early in the discourse structure. An initiating event is “an event that has the potential to lead to a significant outcome (good or bad) for one of the main characters” (Brewer 1996, p.113). In the above example, Event #1—“Alfred H. has placed a bomb under the table”—acts as the initiating event. This initiating event operates as a foreshadowing device, providing expectations that a good or bad event may occur later in the narrative (Barnet et al. 1971; Hoffner and Cantor 1991; Wulff 1996). Mabley (1972) also refers to a similar notion—a *plant*: “a preparatory device that helps to weave the fabric of a play together, in the sense that it arouses curiosity and anticipation of a coming event” (p. 25). Thus, with suspense, there is uncertainty regarding an expected upcoming event, which was suggested by an initiating event.

This is opposed to a discourse structure that exhibits curiosity. According to structural affect theory, *curiosity* occurs when the reader or viewer is presented a significant outcome early in the discourse and, thus, may become curious as to how or why this event came about. The discourse structure would begin as follows:

5. *A bomb under a table exploded killing three men.*

If this event were to occur first, uncertainty about the circumstances that lead up to the event would be invoked. This would, then, pique a person's curiosity.

Finally, Brewer and Lichtenstein's (1982) structural affect theory considers situations in which there is *no* initiating event. As discussed above, to induce feelings of suspense, an initiating event must be present that suggests an upcoming event may occur. When *no* initiating event (Event #1) is included in the discourse, *surprise* is induced.

Thus, the discourse structure that would invoke a surprise reaction is as follows:

2. *Three men came into the room.*
3. *The men began playing cards.*
4. *The men were talking about the weather.*
5. *A bomb under the table exploded killing the men.*

Thus, surprise is created when an initiating event is withheld, which would lead the audience to expect nothing of importance on the horizon. Because the bomb is unexpected, surprise is a result.

In sum, what can be understood based on structural affect theory is that these types of reactions are associated with *uncertainty*. With *surprise*, there is no expectation of what is to come. Thus, there is no uncertainty. However, curiosity and suspense are both invoked by uncertainty, yet different types of uncertainty. According to structural affect theory, with *curiosity*, the *preceding events* that led to a known outcome are uncertain, but with *suspense*, the *outcome* is uncertain.

*Uncertainty about a future event with two mutually exclusive outcomes.* Aside from uncertainty about events in the future versus the past, a further distinction between suspense and mystery/curiosity has been made. Some authors note that suspense involves situations in which the outcome is binary and mutually exclusive, while this is not the

case for mystery/curiosity (Carroll 1996; Ohler and Nieding 1996; Sternberg 1978). Carroll (1996) differentiates suspense and mystery by stating that in a “whodunit,” there may be several possible outcomes (i.e., murderers)—the number of suspects. Furthermore, he notes that these possible outcomes (i.e., murderers) are not mutually exclusive. In other words, some suspects may be in cahoots. Thus, there could be an indefinite number of possible outcomes to a mystery. In contrast, a suspenseful narrative involves only two possible outcomes, and these two possible outcomes are mutually exclusive. Carroll states, “. . . in the case of suspense, the course of events in question can have only two outcomes, and those potential outcomes stand in relation to each other as logical contraries—either the heroine will be torn apart by the buzzsaw or she will not be” (1996, p. 76). Ohler and Nieding (1996) concur, asserting that suspense occurs when there is a “double-option decision situation. . . Does the hero manage to catch the bus or not?” (p. 133). Similarly, Sternberg (1978) has noted the “mutually exclusive expectations and hypotheses” (p. 87) that are associated with suspense.

*Summary of uncertainty.* In sum, suspense researchers seem to be in consensus regarding the notion that uncertainty is a fundamental aspect of suspense. Moreover, this uncertainty pertains to a future outcome, rather than uncertainty surrounding events of the past. Some authors have gone further in circumscribing suspense by noting that it involves situations in which there are two possible future outcomes and these outcomes are mutually exclusive ones—will the hero escape or not? Most suspense researchers seem to implicitly agree on this notion. This will be discussed in more detail in the section on how uncertainty impacts suspense, a fiercely debated topic. Before addressing



a topic with conflicting viewpoints, however, the discussion will now turn to another element suspense researchers seem to agree upon—the importance of the outcome.

### ***Outcome Importance***

Another idea that suspense researchers seem to agree upon is that the uncertain outcome must be an important one (Brewer 1996; Brewer and Lichtenstein 1982; Carroll 1984; Carroll 1996; Jose 1988; Jose and Brewer 1990; Kassler 1996; Luelsdorff 1995; Tan and Diteweg 1996; Vorderer 1996; Wuss 1996; Zillmann 1996). Carroll (1996) provides a nice summary statement about the requirement of an important outcome: “... suspense only takes charge when we care about those future outcomes about which we are uncertain. We are not inclined toward suspense about whether or not the bus will start unless we have some stake or concern in its starting or not starting” (p. 76). Similarly, Brewer and Lichtenstein (1982), in discussing their structural affect theory, make this point in their definition of an initiating event: it is an event that must lead to “significant consequences” (p. 445). Thus, the importance of the outcome is the motivational factor that leads to the positive or negative *emotional* content of suspense; as Carroll (1996) mentions, it takes more than uncertainty to create suspense. This idea will be considered in more depth in the following chapter when theories of emotion will be covered.

In conceptualizations of suspense, the antecedent of outcome importance has manifested in several variables. These variables are all similar in that they are each a context-specific variable subsumed under the more abstract variable *outcome importance*. However, this principal, broad variable has not been clearly identified, and, thus, the context specific variables have not been integrated into a more general theory. The reason

why this integration has not come about sooner is likely because convincing an audience of important outcome can be accomplished in a multitude of ways. More likely, however, it needs to be pointed out that the theories of suspense reviewed here have been developed in the context of narratives or sports spectatorship, and these contexts include characters or players/teams. For instance, in a narrative, the character is the person who is directly faced with the outcome, not the audience member. However, the audience member is the person of interest, and, in order for he/she to be in suspense, that person must believe that an important outcome is on the horizon, even if the outcome does not directly impact him/her. In other words, an important outcome perceived by an audience member is mediated through the character. The fact that the important outcomes portrayed in narratives is one step removed from the audience member (via the character) likely impeded suspense researchers' recognition of this broader variable of outcome importance.

Outcome importance, in the viewer or reader's experience, is argued to have manifested in suspense research in two ways: communication of a significant outcome and dispositions toward another person(s). Further, the disposition toward another person(s) has manifested in several ways—disposition toward the film/story characters, disposition toward teams/players in the context of spectator sports, and conflict. Each of these will be addressed in the following sections.

*Communication of a significant outcome.* One way in which suspense researchers have incorporated outcome importance as an antecedent is an obvious one. Simply stated, important outcomes for the character must be clearly communicated to the audience.

Thus, including an initiating event or foreshadowing device in the text, as previously discussed, should communicate that an occurrence—one that has *major consequences* for the character—is on the horizon. As can be seen in Table 2.2, Brewer (1996), Hoffner and Cantor (1991), and Tan and Diteweg (1996) explicitly state this as an antecedent. Brewer and Lichtenstein (1981) empirically demonstrated this as well (see Table 2.3). In their study, participants read two identical stories (e.g., about a man driving home from work), except that one included an initiating event suggesting an important negative outcome (e.g., that a bomb had been placed in the man’s car) and the other did not. Results showed that suspense, measured at different points during the reading of the story, increased only for the story that mentioned the important outcome. Also presented in Table 2.3, Jose and Brewer (1990) supply indirect evidence of the important outcome antecedent: they found that story enjoyment was highest when an initiating event suggesting a significant outcome was included in the story—with the *assumption* that suspense mediated that relationship. In their study, three different stories were read to elementary school children: a mundane story (e.g., a girl mailing a letter), a mundane story with excitement that was not related to the plot, and a “suspense” plot (e.g., the significant initiating event that a swarm of bees had been placed in the mailbox was included). Results showed the children enjoyed the story with the significant initiating event more so than the other two stories.

Similarly, *goal importance*, as proposed and tested by Jose (1988), can be subsumed by the more general variable of outcome importance, if one considers achieving a *goal* as interconnected to facing an *outcome*. For instance, a character’s goal

of trying to escape from an oncoming bus is directly related with the outcome of being run over by the bus. Jose's (1988) results provide indirect support for the relationship between goal importance and suspense. He had participants read stories with an important goal (e.g., warning firefighters about blaze) versus an unimportant goal (e.g., going to town for a snack). Results showed that the story was enjoyed more when the goal was important, as presented in Table 2.3. The study did not test the relationship between the goal importance of the character and suspense. However, the assumption, based on structural affect theory, is that the relationship between goal importance and enjoyment was mediated by suspense.

Similarly, Zillmann (1996) has proposed that the audience's assessment of the magnitude of harm that will be inflicted on the protagonist increases suspense, as shown in Table 2.2. It is argued the more harmful a potential outcome for the protagonist is perceived, the more important the outcome will be perceived. Although magnitude of harm could be explicitly communicated to the audience, it could also be implicitly communicated by showing the antagonist killing other characters, suggesting that the protagonist could be killed (as opposed to just hurt) as well.

Finally, regarding "real life" suspense, economic psychologists (Mullet et al. 1994) have proposed and tested that the monetary value of a gamble should increase suspense. Thus, the higher the monetary value, the more important the outcome would be perceived. In two experiments, participants were shown cards with different monetary values (along with probability values) that participants could possibly win, and they were asked to indicate the level of suspense the gamble would induce. As seen in Table 2.3, in

both experiments participants reported they would feel more suspense when the monetary value they could possibly win was higher.

*Disposition toward the film/story characters.* As just mentioned, specifically communicating an important outcome was one obvious variable noted by suspense researchers. However, a second way in which the antecedent of outcome importance has manifested itself in conceptualizations of suspense is in an audience member's *disposition toward another person(s)*. In the context of film and narratives, this variable has manifested in how an audience member feels about the *characters*—both the protagonist and the antagonist.

The disposition toward the protagonist will be considered first. Suspense theorists have proposed that *the higher the positive disposition toward the protagonist, the higher the suspense*. The argument put forth here is that a positive disposition toward the protagonist can be subsumed under outcome importance. The assumption is that the more an audience member likes or cares about a character, then the more important that character's outcome will be perceived by the audience member. For instance, if a random character is faced with the possibility of being hit by a bus, the audience member will likely feel suspense because the likely outcome is an important one—the character may be killed. However, the audience member will feel even more suspense if the character is a liked protagonist. The rationale is that the possibility of the liked protagonist being hit by a bus is more personally relevant or important to the audience member than the possibility of a random character being hit by a bus—there is more at stake if we care about the character.

As can be seen in Table 2.2, several authors (Comisky and Bryant 1982; de Wied 1994; Hoffner and Cantor 1991; Tan and Diteweg 1996; Zillmann 1996) have proposed that disposition toward a character, liking of a character, or caring about character leads to increased suspense. Similar antecedents are also proposed: Brewer (1996) mentioned character sympathy, and Kassler (1996) mentioned character identification. As can be seen in Table 2.3, empirical evidence also suggests that disposition toward the protagonist plays a role in increasing suspense (Comisky and Bryant 1982; Kassler 1996). For instance, Comisky and Bryant (1982) manipulated disposition toward the protagonist by differing the narrative voiceover in a short film. The protagonist was described as either having an “undistinguished life” (neutral disposition), being a “good man, liked by his friends” (mildly positive disposition), or being a “genuinely fine individual, who was beloved and admired by his family and friends” (strongly positive disposition). Results showed that ratings of suspense increased as the positive disposition toward the character increased. Similarly, identification has been shown to increase suspense. Jose and Brewer (1984) found that if the participant and the protagonist were of the same gender (i.e., identification), suspense ratings were higher, also shown in Table 2.3.

Furthermore, the dispositions toward characters other than the protagonist have also been considered. Specifically, it has been proposed that *the higher the negative disposition toward the antagonist, the higher the suspense*. For instance, an audience member will likely be in suspense if a liked protagonist is attempting to escape being run

over by a bus. However, even more suspense will be felt if the person driving the bus is a disliked antagonist.

Carroll's (1984; 1996) conceptualization of suspense includes the negative disposition toward the antagonist, in addition to the positive disposition toward the protagonist, as antecedents to suspense. Specifically, Carroll (1984; 1996) used the notion of *morality* to express how both the audience member's positive feelings toward the protagonist and his/her negative feelings toward the antagonist can increase suspense. He argued that in order to increase the audience's concern about the outcome, the author/writer could use morality to elicit the audience's ethical concern for a just world. As mentioned earlier, Carroll (1984; 1996) has asserted that in situations of suspense, only two outcomes are possible, and these outcomes are mutually exclusive. Furthermore, Carroll (1996) asserts that suspense is greatest when those mutually exclusive outcomes are "logically opposed" (p. 78)—one outcome is morally correct, or good, and the other outcome is morally incorrect, or evil. He also claims that the characters in the narrative determine these morally good versus evil outcomes. He states, "it is my view that character—especially at the level of virtue—is a critical lever for guiding the audience's moral perception of the action" (Carroll 1996, p. 79). Characters that show concern for unprotected characters, such as the elderly, children, or the weak, are considered good, while characters that abuse others are considered evil. Thus, if the virtuous protagonist escapes being struck by a bus, this outcome would be morally correct because the audience's moral evaluation is that the virtuous character *deserves* to live. Such an outcome would be perceived as more just or fair than if this character were killed.

Furthermore, a scene such as this would be considered suspenseful and follows the same logic as the proposition that a positive disposition toward the protagonist increases suspense (e.g., Comisky and Bryant 1982; de Wied 1994; Hoffner and Cantor 1991; Tan and Diteweg 1996; Zillmann 1996). In fact, Comisky and Bryant's (1982) manipulation of positive disposition, as previously discussed, presented the protagonist as either a "good" or "genuinely fine" man, similar to Carroll's notion of virtuous.

Yet Carroll (1996) takes "feelings toward characters" idea further by also considering the *antagonist*. Thus, if a vicious antagonist drove the bus heading toward the virtuous protagonist, the possibility of the protagonist being struck by the bus would be considered a morally incorrect outcome. This would be considered an unjust outcome because the evil antagonist would prevail. Thus, a scene in which the evil protagonist is driving the bus would be considered more suspenseful than if he/she were not.

*Disposition toward teams and players.* A second way in which outcome importance has manifested itself in terms of disposition toward another person(s) is in the context of spectator sports. The *Disposition Theory of Sportsfanship* (Bryant and Raney 2000; Zillmann et al. 1989; Zillmann and Paulus 1993) predicts the spectator's enjoyment of a sports contest. Simply put, a spectator's enjoyment of a sports match is determined not only by the disposition toward the ally but also the disposition toward the opponent. Specifically, enjoyment is proposed to be greatest when "an intensely liked player or team defeats an intensely disliked player or team" (Zillmann et al. 1989, p. 257). The theory also predicts that enjoyment will be lowest when the spectator is not dispositionally involved with either team; such indifference is proposed to produce no



affective reaction. Thus, this theory is similar to Carroll's (1996) idea about mortality, in which he proposed that one's feeling about both protagonist *and* the antagonist can lead to increased suspense.

Zillmann, Bryant, and Sapolsky (1989) found support for this hypothesis: they found that persons who had the most positive disposition toward the winning team *and* the most negative disposition toward the losing team reported the most enjoyment. Other studies using the Disposition Theory of Sportsfanship as a theoretical framework that considered *only* the disposition toward the winning team found that the stronger the disposition toward the winning team, the more the enjoyment of the game (Gan et al. 1997; Sapolsky 1980). Although he did not use the Disposition of Theory Sportsfanship as a theoretical framework, Madrigal (1995) found that team identification increased the game enjoyment. These findings are akin to the proposition that the disposition toward the protagonist increases suspense.

The Disposition Theory of Sportsfanship, however, does not propose that these dispositions toward the teams have an impact on *suspense*; rather, the theory proposes that stronger dispositions increase *enjoyment*. Theories of suspense also suggest that the more suspenseful a film, novel, or perhaps a sports game, the more enjoyable (as will be discussed in more detail). Thus, it is possible that suspense is a mediating variable in the “dispositions toward teams”-“enjoyment” relationship found in these studies. The close parallel between Carroll's ideas on morality and the Disposition Theory of Sportsfanship—in that both consider the positive dispositions toward the protagonist or ally *and* the negative dispositions toward the antagonist or opponent—provides further

justification that suspense may be a mediating variable in the studies of sports enjoyment. Interestingly, a review of suspense theory is presented in several of these articles on spectator sport enjoyment. While these articles point out that suspense may affect enjoyment, no direct connection is made between suspense theory and the Disposition Theory of Sportsfanship. Rather, in these studies of sports enjoyment, suspense is conceptualized and operationalized as related to uncertainty, not dispositions toward the teams (Gan et al. 1997; Sapolsky 1980).

So, how do these dispositions toward characters or teams relate to outcome importance? The claim made here is that the more positive the disposition toward a protagonist or ally, in addition to the more negative the disposition toward the antagonist or opponent, then the more important the outcome will be perceived, and, thus, the more suspense will be felt. For example, in the context of spectator sports, the outcome of a game will not be perceived as important if the person has no disposition toward either team. However, if the ally were one's favorite team, the game's outcome would be perceived as more important. An even more important outcome would be a game in which one's favorite team was playing its rival. Thus, this situation would elicit even more suspense.

*Conflict.* Conflict is another concept discussed by suspense researchers that can actually be subsumed by *disposition toward another person(s)*, and thus *outcome importance*. It will be shown that the concept of conflict is very similar to Carroll's (1996) notion of morality and the Disposition Theory of Sportsfanship.

The concepts of conflict, drama, suspense, enjoyment, and entertainment are commonly tied to one another. For instance, Bryant, Brown, Comisky, and Zillmann (1982) mention *suspense* leads to increased enjoyment of drama: “The enjoyment of drama has been shown to increase with the degree of *suspense*” (p. 111, emphasis added). Similarly, conflict is also thought to lead to entertaining drama. For instance, Bryant, Comisky, and Zillmann (1981) state that, “...it has long been argued that *conflict* and competition are key elements in the enjoyment of drama” (p. 257). Similarly, Vorderer and Knoblock (2000) state that “drama dwells on conflict” (p. 59). In their discussion of the enjoyment of sports, Zillmann et al. (1989) make a similar connection between conflict and drama, mentioning that “genuine human conflict” makes for good drama in sporting events. Thus, entertaining drama is often suspenseful and often involves conflict. The argument here is that drama is suspenseful *because* it contains conflict.

While some suspense researchers have noted the internal conflict a person feels when in a state of suspense (Alwitt 2002; Loker 1976; Vorderer and Knobloch 2000), many other suspense researchers have noted that conflict involves two opposing forces (Alwitt 2002; Bryant and Raney 2000), which is similar to Carroll’s (1996) notion that two outcomes should be “logically opposed” (p. 78). A more specific operationalization and conceptualization of conflict is the hatred between two opponents in sports. Bryant and Raney (2000) mention that, in a sports contest, “bitter conflicts”—those that involve a “rival”—lead to increased enjoyment. Furthermore, as can be seen in Table 2.3, Bryant et al. (1982) considered this notion of conflict. Participants were asked to watch a tennis match, in which a voiceover described the players as being best friends, bitter enemies, or

unspecified. Results showed that participants enjoyed the game more and felt more excited when the players were bitter enemies. Furthermore, they thought that their play was tenser and more hostile and that the competition was more intense when the opponents were described as rivals. Such findings may help explain why the broadcast of the ice-skating showdown between Nancy Kerrigan and Tonya Harding at the 1994 Winter Olympics was second in all-time Neilson ratings, following the final episode of *M\*A\*S\*H* (cited in Bryant and Raney 2000). In a somewhat similar study, also shown in Table 2.3, Bryant et al. (1981) found that men reported increased enjoyment as the degree of violence and roughness in football plays (high, medium, and low conditions) increased. For women, a curvilinear relationship was found: the medium condition the most enjoyable. Although only an assumption, it may be that violence and roughness is perceived by the audience as an indication of the teams' negative dispositions (i.e., hatred) toward one another.

How does conflict relate to outcome importance? The rationale can be described as follows. When watching a narrative or sports match in which the opponents are described as rivals, it is argued that a person first chooses an opponent to favor (in a narrative, this is the protagonist). Second, that person then uses the favored team or protagonist's attitude toward the rival to determine how he/she should feel about the rival. The spectator or audience member, then, will hate the rival, feelings that are based on the attitude the ally has toward the rival. This notion is somewhat akin to a statement made by Bryant et al. (1982): "It can be assumed that spectators who perceive a great

deal of animosity and tension between the competing parties in an athletic contest become tense themselves" (p. 111).

Assuming that this process takes place, conflict works in a fashion similar to Carroll's (1996) morality and the Disposition Theory of Sportsfanship (Zillmann et al. 1989). In situations of high conflict (i.e., hatred) between teams, when a person sides with the ally, that person will have a positive disposition toward the ally or protagonist plus a negative disposition toward the rival or antagonist. For example, a game in which rivalry is more intense will lead to the audience's belief that the game is *more important* as compared to a game in which rivalry is less intense. Because rivalry suggests an important game, the audience will feel more suspense while watching the game.

However, as with other studies, the empirical studies on conflict showed increased enjoyment, not increased suspense. Thus, they only provide indirect evidence that conflict, in terms of rivalry between teams or players, increases suspense. Additionally, what is interesting is that in these studies of sports enjoyment, these notions of conflict and drama were not associated with suspense theories or with the Disposition Theory of Sportsfanship.

*Summary of outcome importance.* The goal of this section was to show that several proposed antecedents believed to lead to suspense could be subsumed under the variable *outcome importance*. In general terms, these variables include (1) communication of a significant outcome and (2) dispositions toward another person(s). More specifically, the following variables listed in Table 2.2 would fall under outcome importance: *conflict* (Alwitt 2002), *significant outcomes signaled by initiating event*

(Brewer 1996; Tan and Diteweg 1996), *degree of foreshadowing* (Hoffner and Cantor 1991), *morality* (one of the alternative outcomes is morally correct, the other outcome is morally incorrect) (Carroll 1996; Kassler 1996), *disposition toward characters* (care for protagonist) (Bryant et al. 1982; de Wied 1994; Hoffner and Cantor 1991; Tan and Diteweg 1996), *character sympathy* (Brewer 1996), *identification* (Kassler 1996) and *liking of the protagonist* (Zillmann 1996).

Furthermore, as can be seen in Table 2.3, similar variables have been found to lead to *enjoyment*: *Presence of a significant initiating event* (Jose and Brewer 1990), *goal importance* (Jose 1988), *positive disposition toward ally* (Gan et al. 1997; Madrigal 1995; Sapolsky 1980; Zillmann et al. 1989), *negative disposition toward opponent* (Zillmann et al. 1989) and *conflict in the form of mutual hatred between the teams* (Bryant et al. 1982; Bryant et al. 1981). Many of these studies were conducted in the context of spectator sports. While the antecedents in these studies did not lead to increased suspense (it was not measured), suspense is hypothesized to lead to enjoyment (as will be discussed). Thus, suspense may have mediated the relationship between the above variables and enjoyment.

Previous reviews of suspense have not proposed the broad variable of outcome importance. Therefore, the variables listed above have not been categorized as basically similar in nature in that they all lead to increased outcome importance. Thus, this proposition that outcome importance is a fundamental, overarching variable should help clarify divergence and ambiguity in the suspense literature. An argument could be made that stating such a proposition is a step backward: Specific techniques that increase

narrative and sports suspense have now been collapsed into a more general category. However, proposing such a broad, encompassing variable could also help identify *additional* methods that increase suspense via outcome importance.

For example, no suspense researcher has identified a specific technique that would likely influence outcome importance—the notion of the “last chance.” Imagine, for instance, a plot in which a 19-year-old Olympic gymnast is striving for a gold medal, an obviously important goal to most Olympic athletes. However, the possible outcome of winning the gold would be even *more important* for this particular gymnast: It may be her “last chance” at an Olympic gold because she will likely be too old to compete at the next Olympic games. Proposing the more abstract variable of outcome importance can likely identify other such variables. A final argument for collapsing these variables or techniques into one category is that this notion of outcome importance is consistent with the emotion literature, which will be discussed in the next chapter.

In sum, suspense researchers are consistent on two factors that are necessary for suspense: (1) Uncertainty about a future outcome, and (2) the outcome must be an important one. Although the consensus of the second factor has not been obvious, this section provided a summary of variables that are believed to fall under the broad variable of *outcome importance*. Our attention will now turn to the disagreement about *how* these factors create suspense.

### ***Ideal Level of Uncertainty***

One of the biggest disagreements in the suspense literature concerns the ideal level of uncertainty needed to produce the maximum amount of suspense. Both Kassler

(1996) and Brewer (1996) stated that while, for the most part, suspense researchers agree that uncertainty about a future outcome is a needed element for suspense to occur, they are in dispute about what should be the ultimate level of uncertainty. Specifically, researchers are in conflict over whether maximum uncertainty (i.e., a 50/50 chance) or a high probability of an outcome (i.e., 99/1 chance or 99% probability) produces the most suspense.

*The maximal uncertainty-high suspense proposition.* Because uncertainty is a needed factor to create suspense, it may seem that maximum uncertainty should create the most suspense. As mentioned earlier, the possible future outcome in suspense is expressed as “Will X happen or not?” (Carroll 1984; Carroll 1996; Ohler and Nieding 1996). Suspense involves a situation in which the outcome is binary, with two possible outcomes: X will happen, and X will not happen. Thus, maximum uncertainty would be a situation in which the odds would be a 50 percent probability of each event occurring—a 50/50 chance. Some theorists have postulated that such situations create the most suspense (Jones 1914, cited in Bryant et al. 1981; Jones 1914; Mabley 1972; Ohler and Nieding 1996; White 1939; Wulff 1996). For instance, Comisky and Bryant (1982) cite two authors’ statements that they interpreted as meaning a 50/50 chance (although Comisky and Bryant do not agree with this viewpoint). For instance, they cite Jones (1914) who believed that drama occurs when a human is in conflict with an opposing force and that drama is “most arresting and intense when the obstacle takes the form of another human will [a noun] in almost *balanced* collision” (Jones 1914, p. 37, emphasis added, cited in Bryant et al. 1981). They also interpreted Mabley’s (1972) work as



meaning that a 50/50 chance produces the most suspense. Mabley stated that, "The protagonist and the obstacles he encounters must be fairly *evenly matched*. If the obstacle is weak, then the achievement of the objective is too easy, and the play is weak. Neither should the obstacle be so overwhelming that the protagonist has no chance of overcoming it" (p. 11-12, emphasis added). Ohler and Nieding (1996) made the most recent assertion, and a more explicit one, that maximum uncertainty creates the most suspense: "We assume that suspense is induced when there is an approximately similar probability for each outcome and not when there is a bias in favor of the undesirable outcome" (p. 137).

*The high probability-high suspense proposition.* In the above quote, Ohler and Nieding (1996) were responding to the more favored belief—that suspense is greatest when there is a *high probability or likelihood* that something terrible will happen to the protagonist. Zillmann (1980), noted as the leading suspense scholar (Vorderer 1996), originally proposed this idea. As Table 2.2 shows, Zillmann (1996) postulated that high certainty—but just short of absolute certainty—of a harmful outcome is what produces the most suspense. Thus, according to this conceptualization, the odds that something negative *will* happen to the protagonist versus something bad will *not* happen to the protagonist is not 50/50. Rather, it can be expressed as a 99% chance (i.e., just short of certainty) of something harmful occurring versus a 1% chance of it not occurring. Bryant, Rockwell, and Owens (1994) offer a nice summary of this opposing view: "Although many people equate suspense with uncertainty, this theory [Zillmann's] clearly posits that maximum levels of suspense do not follow mathematical models of uncertainty. Based on uncertainty models, we would estimate suspense to be highest when we were equally

uncertain about any outcome. However, this theory of suspense holds that more suspense can be engendered when viewers become increasingly certain of negative outcomes up to the level in which absolute certainty of negative outcomes is reached, which presumably eliminates any suspense for the viewer" (p. 329).

Carroll (1984; 1996), who has also developed one of the most comprehensive conceptualizations of suspense, concurs. As mentioned, Carroll asserted that of the two possible outcomes, one must be morally correct or good and the other morally incorrect or evil. Furthermore, he contended that the evil outcome must have a *high probability* of occurring. As can be seen in Table 2.2, he believes that "one of the alternative outcomes is morally correct but improbable ... *while the other outcome is morally incorrect or evil, but probable*" (Carroll 1996, p. 78, emphasis added). Several other authors (many of which have published with Zillmann) have explicitly mentioned this as an antecedent, as can be seen in Table 2.2 (Brewer 1996; Comisky and Bryant 1982; de Wied 1994; Hoffner and Cantor 1991).

*Empirical evidence for the high probability-high suspense relationship.*

Furthermore, empirical evidence also supports the belief that a high probability of harm increases suspense. As shown in Table 2.3, Comisky and Bryant (1982) provided the most convincing evidence. Participants watched a narrated film differing on perceived likelihood that the protagonist would survive—a 0, 1, 25, 50, or 100 percent chance of escape. For instance, in the 0 percent likelihood condition, the protagonist's chances of survival were stated as "absolutely nil" and that he had "no chance" of escape, and in the 1 percent likelihood condition, his survival chances were described as "extremely slim at

best,” and that the “odds were tremendously against him” (p. 54). Results showed that suspense ratings were highest when the probability was a 1 percent chance of escape. The conditions in which the outcome was certain, 0 and 100 percent, demonstrated the least suspense. Thus, they showed that suspense was highest when the likelihood was very certain but short of certainty. Kassler (1996) provided additional support, also shown in Table 2.3. In two studies, participants each watched 15 film clips and rated the probability of a negative outcome for the protagonist mid-way through the clip, then rated suspense at the conclusion of the clip. Results showed that probability had a strong effect on felt suspense ( $R^2 = .75$  [Study 5];  $R^2 = .71$  [Study 6]).

*Antecedents analogous to high probability.* Beside explicit statements that an increase in the probability of a negative outcome causes an increase in suspense, some theorists have suggested analogous antecedents or have operationalized suspense in a manner consistent with the high probability/likelihood proposition. Specifically, it is argued that the following antecedents or manipulations can be interpreted as specific techniques for creating an increased probability of a negative outcome for the protagonist. As shown in Table 2.2, these variables or techniques include the audience having more knowledge than the protagonist (Alwitt 2002; Wuss 1996), options for the protagonist’s escape being “squeezed out” (Gerrig and Bernardo 1994), and goal difficulty. As will be discussed, although these variables fall under the more general variable of increased likelihood for a negative outcome for the protagonist, only one of these antecedents has been explicitly related to increased probability.

First, Hitchcock (quoted in Truffaut 1966) originally proposed that suspense could be created if the *audience knows more than the protagonist*. Other suspense theorists have concurred (Alwitt 2002; Wuss 1996). However, this technique can be interpreted as, first, an initiating event, in that it lets the audience know about the danger to come. For instance, a scene in which an intruder is shown hiding behind the protagonist's bedroom door would signal to the audience the potential danger, and thus, would be an initiating event. If the audience were never aware of the intruder, there would be no suspense. Rather, the protagonist's confrontation with the intruder would elicit a surprise reaction. Second, and related to the high probability hypothesis, *if the protagonist is unaware of the threat, then his/her probability of succumbing to it is higher than if he/she did know*. If the protagonist did know, he/she would be able to avoid the threat. For example, if a protagonist was aware that an intruder was behind her door, her probability of succumbing to it would be lower: She would be better prepared to handle the threat by removing a gun from the dresser, or she would be able to escape by running out of the house instead of walking into the bedroom. Thus, situations in which the audience knows more than the protagonist creates suspense because the audience is clued in about a possible negative outcome (although the character is unaware) and because the characters probability of surviving are lower due to the character being unaware of the danger.

Two other variables that are argued in this dissertation to fall under increased likelihood have been proposed, as well as empirically tested. First, Gerrig and Bernardo (1994) proposed that suspense is heightened when a *protagonist's avenues for escape are*

*squeezed out or pruned*. The authors explain the hero's struggle as a problem-solving endeavor. Specifically, they state, "Our general hypothesis is that one way in which authors make readers feel suspense is by leading them to believe that the quantity or quality of paths through the hero's problem space has become diminished" (p. 460). In 7 studies, participants were asked to read texts in which either James Bond or some other character was involved in threatening situations. Results showed that in the conditions in which a possible escape option was suggested then removed, or "pulled back," ratings of suspense were higher compared to the conditions in which no escape possibility is mentioned or in which it is mentioned but not removed. Their study also measured perceived probability of escape. Although the authors do not explicitly state that perceived likelihood or probability is the broad independent variable leading to suspense, their measurement of it suggests that this was at least implicitly considered. Second, Jose (1988) proposed and found that *goal difficulty* would lead to higher enjoyment, with the assumption that this relationship is mediated through suspense. (Suspense was not measured.) Participants read a story about a man attempting to warn firefighters about a blaze approaching a town. Goal difficulty was manipulated by mentioning that the protagonist must endure a 3-hour walk versus a quick drive. Thus, the difficult goal of a 3-hour walk can be interpreted as a high probability a negative outcome (firefighters will not be warned in time), while the less difficult goal of a quick drive can be interpreted as a low probability of a negative outcome (firefighters will be warned in time).

Zillmann, Hay, and Bryant (1975) provided indirect support for increased probability-increased suspense hypothesis, illustrated in Table 2.3. The authors

hypothesized that suspenseful stories are enjoyed more so than nonsuspenseful ones.

Although they did not *hypothesize* that an increased likelihood of a harmful outcome for the protagonist increases suspense, their *operationalization* of suspense suggests that they implicitly held this belief. In the study, participants were presented with narrated storyboards of two boys encountering a lion. In the manipulations of suspense, the lion was presented as increasingly threatening. For instance, suspense was varied with descriptions and depictions of the lion as normal (low), dangerous and vicious-looking (medium), or man-killing and beast-like looking (high). Thus, *in these manipulations of suspense, as the lion becomes more threatening, it is argued here that the boys perceived chances of being killed become more likely.* Although suspense was not measured, enjoyment and physiological measures (heart rate and skin conductance) were, and these measures increased as the level of manipulated suspense increased. Thus, although suspense was not measured, if one assumes that physiological measures are an indicant of a state of suspense, this study provides indirect evidence that perceived likelihood of a negative outcome increases suspense.

While this is tangential to likelihood-uncertainty disagreement, this study does point out a key distinction—that *probability* of a threat and *disposition* toward a group, person, animal, or “mother nature” causing the threat are independent of one another. In some situations, a character may be disliked but not threatening. For instance, a character may be pathetic and despicable and, thus, not liked, but that does not necessarily mean that the character is capable of inflicting harm on the protagonist. The protagonist may be more powerful than the loathsome antagonist. Similarly, a team’s rival may be bitterly

disliked; however, the rival may be having a horrible season and pose no threat to the ally. The reserve is true as well—a situation in which the “antagonist” is has a high likelihood of causing harm but not disliked. For instance, a lion may pose a threat, but that lion may simply be frightened and attempting to protect itself. Such could be the case of the lion depicted in the Zillmann et al. study. However, if the manipulations mentioned that the lion had attacked a nearby town, killing several small children, the audience would more likely view the lion as evil and, thus, have a strong negative *disposition* toward the lion. Similarly, while an approaching Category 5 hurricane would likely cause extensive damage, the hurricane would likely not be perceived as evil.

This distinction is needed because Carroll’s (1996) conceptualization of moral and immoral outcomes is confounding the variables probability and outcome importance. Carroll has noted that outcomes are perceived as good or evil based on the actions of the characters. However, Carroll also considers natural disasters, such as earthquakes, tornados, fires, etc., as *nature evils*. Specifically, Carroll states that natural evils are “... any threats to human life and limb that result from natural causes and which need not be set in motion by evil agents” (p. 74). However, such “evils” are not morally corrupt. Rather, they are menacing due to their *likelihood* of causing negative outcomes for protagonists, not due to their evilness or harmful *intentions*.

*Indirect evidence for the maximal uncertainty-high suspense relationship.* The number of theorists in agreement on the notion that increased likelihood elicits the most suspense, as well as the empirical evidence backing it, appears to provide validity for that proposition. However, two studies provide rationale to the contrary view—that maximum

uncertainty about the outcome (i.e., at a 50/50 level) produces the most suspense. In two studies on suspense in sports contexts, the researchers hypothesized and found that suspenseful basketball games were more enjoyable than nonsuspenseful ones, as is shown in Table 2.3. Based on their manipulation of suspense, however, *the researchers assumed that a suspenseful game meant that the outcome was uncertain, not highly likely.* For instance, in a field study in which participants watched and rated a live broadcast of the NCAA finals, Gan et al. (1997) operationalized suspenseful games by referring to the point spread of the final score. Games in which the final point spread was small—or “close games”—were considered the most suspenseful, while games in which the point spread was large—or “lopsided game”—were considered less suspenseful. Thus, this operationalization suggests that the *uncertainty* of the outcome, or a 50/50 chance of each team winning, is what creates the most suspense—not a lopsided game in which one team will *likely* win over the other. *This conceptualization is particularly interesting considering that Zillmann, arguably the biggest proponent of the “high probability-maximum suspense” proposition, was a co-author on this study.* In an experimental study, Sapolsky (1980) operationalized suspense similarly. Sapolsky had participants watch the final 18 plays of a basketball game in which suspense was manipulated. For the high suspense condition, the score, announced at the beginning of the segment, was 67 to 66, while for the low suspense condition, the score was announced as 73 to 45. Thus, similar to the above study, suspense was also operationalized as a close game in which the outcome was approximately a 50/50 chance of each team winning. In this study as well, the closer game, the more enjoyable, as is shown in Table 2.3. These studies do not



provide evidence that a close game produces suspense because suspense was not measured in either study. However, in both studies suspense was *conceptualized* as being elicited when the outcome is uncertain rather than when there is a high probability that one team will win.

The notion that a close game is suspenseful was also suggested in a recent content analysis of basketball games, giving additional validity to the maximum uncertainty proposition. In an analysis of 67 televised men's basketball games, Thu, Hattman, Hutchinson, Lueken, Davis, and Linboom (2002) found that referees call a disproportionate number of fouls on the leading team. The authors believed that, in doing so, the referees kept the game's score closer and, thus, kept the game more suspenseful. Furthermore, games that were televised on one of the 3 networks or ESPN had significantly more number of fouls called on the leading team than for games televised on local channels. The authors suggested that the pressure to create sports drama in television might lead to more instances of "fair play" (i.e., referees keeping the game close by calling fouls on the leading team), although they suggested that referees are not likely conscious of their tendencies to do this.

*Inconclusive evidence.* A study by economic psychologists has also examined probability's impact on suspense and has provided mixed results. In gambling scenario study, Mullet et al. (1994) had participants indicate the amount of suspense they would feel for a set of different gambles. Participants were shown cards that provided information about a possible value the participants could win and the probability of winning that amount, which ranged from 10 to 70% or which was uncertain. As seen in

Table 2.3, in study 1, probability was statistically significant: Maximal uncertainty (50% probability) and unknown probability produced the highest suspense. However, at the individual level, probability affected suspense differently, with high probability producing the most suspense for some individuals, low probability producing suspense with other individuals, and maximal uncertainty producing the most suspense for another group. Their second study was more realistic in that participants were told that they could win prizes and a roulette wheel was also used (although suspense was measured *before* the spinning of the wheel). The results of this study did not show an effect for probability. Again, participants varied on how probability impacted suspense.

*Summary of ideal level of uncertainty.* Suspense researchers have not resolved the issue of whether suspense is highest when a negative outcome is very (but not quite) certain or whether it is highest when uncertainty is at its maximum—a 50/50 chance of either outcome occurring. Although the majority of researchers believe and empirical research has directly shown that high likelihood of a negative outcome increases suspense (Comisky and Bryant 1982; Kessler 1996), suspense has been manipulated or operationalized in some studies as maximum uncertainty (Gan et al. 1997). These studies have shown that maximum uncertainty increases enjoyment. Furthermore, Zillmann, the biggest proponent of the high-probability antecedent was a co-author on one of studies (Gan et al. 1997), suggesting that he, too, is divided on exactly how uncertainty affects suspense. Finally, suspense studied within an economic psychology framework provided inconclusive results of how probability affects suspense.

### *Good Versus Bad Important Outcomes*

Previously, outcome importance was argued to be a broad variable that subsumed several variables, such as goal importance, magnitude of harm to protagonist, disposition toward the characters, and conflict. While suspense theorists have not connected these concepts, these variables all can be thought of as dramatic techniques used to increase outcome importance. Thus, while theorists have not recognized this broad level variable, all of these variables or techniques do lead the audience to perceive the outcome as being more important, independent of uncertainty/probability.

Despite the implicit agreement about important outcomes, there is *not* explicit agreement on whether these outcomes, particularly the probable outcome, must be positive or negative. From the previous discussion on the ideal level of uncertainty, the overarching idea is likely apparent—that many authors believe that a high uncertainty of a possible *negative* outcome for the protagonist is what induces suspense. As depicted in Table 2.2, several authors explicitly state this. For instance, Zillmann (1996) mentions that a perceived “harmful” outcome for the protagonist is likely to create suspense. Several authors follow Zillmann’s proposition: Brewer (1996), Comisky and Bryant (1982), de Wied (1994), Gerrig and Bernardo (1994), Hoffner and Cantor (1991) and Tan and Diteweg (1996) all note that suspense occurs when the protagonist has been threatened or will likely be harmed, as seen in Table 2.2. Carroll also poses this notion of a negative outcome for the protagonist. He states that suspense occurs when the immoral, or evil, outcome is probable. Furthermore, there is abundant empirical evidence that possible *negative* outcomes produce suspense. In nearly all studies that have measured

suspense, the outcome faced by the protagonist was a negative one, such as a car bomb, a tidal wave, a swarm of bees, a firing squad, and angry mobsters (Brewer and Lichtenstein 1981; Comisky and Bryant 1982; Gerrig and Bernardo 1994; Jose and Brewer 1984; Jose and Brewer 1990; Vorderer et al. 2001).

On the other hand, Zillmann (1996) has noted that possible good fortunes produce suspense. However, he notes that truly suspenseful situations must include negative outcomes, such as threats and dangers. Brewer (1996) also posed that the potential outcomes for the character may be negative or *positive*, also shown in Table 2.2. Alwitt (2002) additionally suggested that the possible alternative outcome for the characters could be favorable and unfavorable. Furthermore, a positive outcome has been shown to generate just as much suspense as a negative outcome, suggesting that dreadful outcomes are not necessary in producing intense suspense. As can be seen in Table 2.3, Brewer and Lichtenstein (1981) found that a narrative that involved a poor man finding a \$100,000 sweepstakes ticket produced a high degree of suspense. Although not statistically tested, the mean suspense rating for the sweepstake ticket story was very similar for the mean ratings for two stories with negative outcomes (i.e., a car bomb and a tidal wave). Also, Mullet et al. (1994) found that suspense operated when participants had an opportunity to win (and not loose) money, a positive outcome. Furthermore, suspense was been measured in sports contexts and was found to be high (Bryant et al. 1994, shown in Table 2.3). Few would argue that most people consider the possibility of their favored team winning as a positive outcome. Thus, while most suspense researchers purport that

suspense is generated when a negative outcome is eminent, others have suggested and shown that positive outcomes can also produce a great deal of suspense.

The reason for the conflicting viewpoints concerning whether an outcome, particularly the *probable* outcome, for the protagonist should be positive or negative is that the suspense construct has not been clearly defined. As was previously mentioned, some theorists believe suspense is an inherently negative emotion, while others believe that suspense could be a positive emotion. Additionally, some think suspense is a mixture of both positive and negative emotion. This disagreement on the emotional content of suspense has, thus, resulted in conflicting opinions on whether probable outcomes should be negative (which would cause negative emotion), positive (which would cause positive emotion), or could be both. Attention will now be turned to another antecedent of suspense that deals with positive and negative emotions—the alternation of hope and fear.

### ***Alternation of Hope and Fear***

Although some suspense theorists have suggested that suspense is composed of emotions, such as hope and/or fear, others have suggested that alternations of hope and fear are what lead to suspense. Sternberg (1978), a literary researcher, was the first to thoroughly consider this idea. He proposed that the “seesaw” of feelings of hope and fear is what leads to suspense. Specifically, Sternberg (1978) stated suspense is "... sustained by the clash of intermittently aroused hopes and fears (both being emotively and/or ethically colored hypotheses) about the outcome of the future confrontation" (p. 65, also shown in Table 2.3). Thus, Sternberg is in disagreement with those who assume suspense

is comprised of fear (i.e., a high probability of a negative outcome). Rather, he assumed that suspense is a dynamic state that includes hope and fear at different points in time.

Alwitt (2002), although she did not cite Sternberg, tested his proposition. Participants watched either suspenseful or non-suspenseful television commercials. Hope and fear were measured by having participants move a dial to the right when they were feeling hopeful and to the left when they were feeling fearful. Whether an ad was thought to be suspenseful was also measured. As seen in Table 2.3, results showed that as the variability of the hope/fear dial measure increased, so did the reported suspensefulness of the ad. Additionally, she found that the number “runs” (alternations in feeling hope verses fear) also had a positive influence on the reported suspensefulness of the ad.

### ***Time and Suspense***

Time is an additional element that several authors have related to suspense (Alwitt 2002; Carroll 1984; Chatman 1978; de Wied 1994; Kassler 1996; Nomikos et al. 1968). As can be seen in Table 2.2, Alwitt (2002), de Wied (1994) and Kassler (1996) all mention the element of time in their list of antecedents. Three time-related elements will be discussed in this section: duration of harm anticipation, delay, and time pressure or constraints. Furthermore, the argument that these supposed time elements are actually a function of *uncertainty/probability* will be presented.

de Wied (1994) has argued that *duration of harm anticipation* is one time element that increases suspense. Duration of harm anticipation, although not specifically defined by de Wied, is the time between the initiating event, which suggests an important outcome, and the outcome. She cites the Nomikos et al. (1968) study, which

demonstrates that the harm duration increases suspense. In their study, shown in Table 2.3, Nomikos et al. had participants watched two different manipulations of a film about milling accidents involving saws. In the “suspense” condition, shots showing a person’s fingers approaching the blade (“anticipation” shots) were included, yet in the “surprise” condition, these “anticipation” shots were left out. Results showed that the “suspense” condition had a more intense stress reaction (measured by heart rate and skin conductance) than the “surprise” condition. Thus, these results suggest that the longer the time between the possibility that there would be an accident (i.e., an initiating event) and the actual accident (i.e., outcome), the more intense the stress. de Wied (de Wied 1991) also found similar results. Self-report measures of suspense were taken at six different intervals of harm anticipation, which ranged from 19 to 344 seconds. de Wied found that an inverted-U pattern on harm anticipation’s effect on suspense. Suspense increased linearly in the first three intervals but then decreased linearly in the last three. de Wied’s (1994) rationale for the increase in suspense over time is due to the *subjective proximity of the outcome*. In other words, as time increases (i.e., the longer one has been exposed to the film), the outcome is assumed to be more proximate in time and, therefore, more suspenseful. She does not provide an explanation, however, for why suspense eventually decreases. Finally, although Kassler (1996) did not manipulate harm anticipation time, he did report that the length of suspense scenes was highly correlated with ratings of suspense ( $r = .73$ ), as shown in Table 2.3.

A *delay* of the expected outcome is another, similar time element that has been proposed (de Wied 1991; de Wied 1994; Kassler 1996). de Wied (1994) has suggested

that delays increase one's uncertainty about when the event will occur, which in turn increases suspense. de Wied cited the expectancy/contrast model of judged duration (Jones and Boltz 1989) to explain her proposition. She contended that viewers form *temporal expectancies* for the duration of a film's current scene based on their exposure to previous scenes. Thus, if a viewer is exposed to several scenes that last, on average, 5 minutes, they will form expectations that the current scene will also last 5 minutes. If the current scene, however, is longer than the expected 5 minutes, or the outcome is delayed, this will result in a *temporal contrast*. This, she argues, creates uncertainty and, thus, suspense. Specifically, she stated, "... a violation of temporal expectancies, by delaying the presentation of the outcome event, creates uncertainty. Keeping viewers for one or two seconds in a heightened state of uncertainty may add to suspense" (p. 113).

However, Carroll (1984) has an opposing rationale for the effectiveness of delays, as well as distensions or duration in time, in creating suspense. He assumes that delays are actually part of the manipulation of the probability; delays are a technique that re-emphasize and increase the *probability* of a negative outcome. Carroll states:

But I think that these distensions and delays, when they occur, are contingent or accidental accompaniments of the more fundamental procedure for generating suspense—the adding and re-emphasizing of probability ratings. The "delays" that are centrally important in suspense are those that figure, quite literally, in the probability structure—e.g., the raised drawbridge that stalls the rescuer, something that one might want to say "delays" the final outcome of the narrative, but which more significantly makes the rescue less likely" (Carroll 1984, p. 78).

Carroll's notion of re-emphasizing of the probabilities would also capture Alwitt's (2002) proposition that *time pressure* or *constraints* is an element that increases suspense, as shown in Table 2.2. For instance, one common method used to create time pressure is



the time bomb. Yet, this technique simply re-emphasizes the probability of a negative outcome, as Carroll (1984) notes: "Each tick makes it more likely that evil will occur" (p. 71).

If one presumes Carroll's position, all three of the proposed time-related antecedents that are proposed to increase suspense—duration of anticipation time, delays, and time pressure/constraint—can actually be classified under the more general uncertainty/probability variable. However, it is possible that anticipation time does impact suspense independently from delay/probability changes, as found by de Wied (1991), and Carroll notes that empirical research may be required to resolve the probability versus temporal distension conceptualizations. Thus, anticipation time may be an additional antecedent to suspense.

### **Consequences of Suspense**

One notion that all suspense researchers unanimously agree upon is that suspense leads to enjoyment of a narrative. Furthermore, direct and indirect empirical support has been found for this relationship. The following two sections outlines suspense-related research that has considered enjoyment. The first section considers enjoyment in the context of narratives and the second sections considers enjoyment in the context of spectator sports.

#### ***Enjoyment in Narratives***

Zillmann (1996) provides the most comprehensive discussion of the enjoyment of suspenseful drama. He points out the paradoxical notion that, despite the fact that most dramatic suspense induces "distress" during a majority of the narrative, suspenseful

narratives are thoroughly enjoyed. Zillmann proposes that enjoyment of suspenseful narratives is a function of both cognitive and “excitatory” (i.e., physiological) processes. This proposition is based on his earlier work on excitation-transfer theory (Zillmann 1971). Zillmann (1996) proposed that persons feel “empathetic distress” while watching a narrative and will be in a state of “excitation.” This excitation decays slowly once the stimulus that produced it is no longer perceived. At the conclusion of a narrative, this residual excitation is believed to combine with the positive feelings associated with the satisfying ending to produce a state of “euphoria.” Furthermore, Zillmann also postulates that a dissatisfying ending would produce a state of “dysphoria.” Simply put, the excitation associated with suspense (assumed to be a negative emotional state) amplifies whatever one’s emotional state is at the conclusion of the film. A positive ending will be more satisfying or produce more intense positive emotions if it is preceded by suspenseful scenes rather than nonsuspenseful scenes. On the contrary, a negative ending will be more dissatisfying or will produce more intense negative emotions if it proceeded by suspenseful scenes rather than nonsuspenseful scenes. Thus, only suspenseful stories with happy endings should be enjoyed.

Zillmann et al. (1975) tested the propositions that suspense amplifies one’s emotions at the conclusion of a narrative and found partial support. Participants watched narrated storyboards of a tale about two young boys’ confrontation with a lion. Varying manipulations of suspense were achieved by depicting the lion as increasingly more threatening. The outcome was either resolved (i.e., the boys kill the lion) or unresolved (i.e., the lion is heard roaring in the distance). The unresolved ending was intended to be

a negative outcome. Results showed a main effect for suspense on story appreciation: the more suspenseful the story (in terms of degree of threat), the more enjoyable the story was perceived to be, as shown in Table 2.3. However, there was no effect for the resolved verses the unresolved outcome, although the means were in the correct direction. These results suggest that a suspenseful story may be liked regardless of the outcome.

Brewer and Lichtenstein (1981) provide more support for the excitation transfer hypothesis. They manipulated the story structure by including an initiating event in some stories and excluding it in others. Results showed that those stories with the initiating events (suggesting a significant outcome) produced significantly more suspense than in stories with no initiating event. Furthermore, the stories that generated suspense were liked more and their endings were thought to be more satisfying than the stories that did not generate suspense. (This was not statistically tested, although the means differed drastically.) Although no physiological measures were employed, this study does suggest that suspense moderated the enjoyment of the story.

Several other suspense studies provide evidence that suspenseful narratives are enjoyed more so than those that are less suspenseful, although the story resolution was not varied. Alwitt (2002) found that participants who watched suspenseful television commercials had more positive attitudes toward the ads compared with the participants who watched nonsuspenseful ads, as can be seen in Table 2.3. (Whether the ad was suspenseful was determined through pilot studies by asking respondents to rate the suspensefulness of ads.)

Studies based on Brewer and Lichtenstein's (1982) structural affect theory also provide empirical support for suspense's positive impact on enjoyment. The basic objective of this theory is to provide an understanding the different narrative structures that are designed to *entertain* (i.e., mystery, surprise, and suspense), as opposed to other types of narratives that serve alternative purposes (e.g., newspaper articles are meant to inform, and fables and propaganda are meant to persuade). Thus, all of the work in structural affect theory has considered *enjoyment* of the narrative as a dependent variable. Furthermore, in those studies that examined suspense stories structures (Jose 1988; Jose and Brewer 1990), results have shown that the elements that are assumed to create a suspense narrative have had a positive effect on participants' enjoyment of the narrative, all presented in Table 2.3. For example, Jose (1988) found that goal importance and goal difficulty, which were presumed to create a suspenseful narrative as opposed to other types, had a positive effect on enjoyment. Additionally, Jose and Brewer (1990) found that stories that included an initiating event were enjoyed more so than those that did not. Unfortunately, these studies did not measure suspense; rather they assumed suspense served as a mediator. Jose and Brewer (1984), however, did measure suspense. Specifically, their study found that gender similarity (i.e., identification) and character valence (i.e., good versus bad character) was positively correlated with suspense, which, in turn, had a positive effect on enjoyment of the narrative.

### ***Enjoyment in Spectator Sports***

Sports spectatorship studies have also suggested that suspenseful sports matches increase enjoyment. Both Gan et al. (1997) and Sapolsky (1980) found that suspenseful

games (i.e., “close” games) were enjoyed more so than nonsuspenseful games (i.e., “lopsided” games). Bryant et al. (1994) also found that the more suspenseful the game, the more participants enjoyed the game. However, their manipulation of suspenseful game differed from the two above studies: suspense was manipulated by varying the color commentary and excitement of the [football] plays. This variation was thought to create more versus less “polarization” between the two teams.

Finally, some sports spectator studies have also proposed that other antecedents create enjoyment—disposition and conflict. These studies do not specifically mention suspense as an antecedent, although it is likely that suspense mediated the relationship between conflict/disposition and enjoyment. As mentioned earlier, both of these techniques can be classified as variables that increase outcome importance. As seen in Table 2.3, Bryant et al. (1982) and Bryant et al. (1981) found that conflict, in terms of how much the two teams or players disliked one another, was found to increase enjoyment. (Note that this conceptualization is similar to Bryant, Rockwell, and Owens’s conception of suspense created through “polarization.”) Also, Zillmann et al. (1989) found that a strong positive disposition toward the winning team, coupled with a strong negative disposition for the losing team, produced the most enjoyment.

In sum, suspense theorists are in unanimous agreement with the notion that suspense increases enjoyment. According to Zillmann (1996), the “excitation” associated with suspense is thought to moderate one’s emotion in response to an outcome. Positive outcomes are believed to produce more satisfying feelings if the events prior to the outcome are perceived to be suspenseful. On the contrary, negative outcomes are

believed to produce more dissatisfying feelings if the events prior to the outcome are perceived to be suspenseful. While there are mixed results for these specific propositions, empirical studies seem to support the notion that suspenseful episodes lead to enjoyment. *However*, these results must be interpreted with caution. Suspense was manipulated in inconsistent ways. Furthermore, in many of these studies, suspense was not measured. Rather, suspense has been assumed to serve as a moderator. Issues of manipulating and measuring suspense will be considered next.

### **Operationalizing Suspense: Measurement and Manipulation Issues**

As was illustrated earlier, suspense has not been clearly defined nor have the antecedents that induce suspense been clearly identified. Thus, an issue that stems from problems with conceptualizing suspense is its operationalization. The next two sections provide discussions of the problems related to the operationalization of the suspense in terms of both measurement and experimental manipulations. These problems should be considered when analyzing empirical studies on suspense.

#### ***Inconsistent Measurements of Suspense***

Summers (2001) notes that poorly defined constructs are impossible to validly measure. Suspense researchers have also indicated problems with invalid measurements of suspense that arise due to the imprecise definitions of the construct (Friedrichsen 1996). Specifically, there are several instances in which it appears different constructs are being measured across studies. Some authors have measured suspense with one-item verbal measures using the word suspense. Such measures seem to have face validity. Yet some of these studies have asked whether the *stimulus* (i.e., film segment, commercial,

etc.) was suspenseful (Alwitt 2002; Bryant et al. 1994; Comisky and Bryant 1982; Gerrig and Bernardo 1994; Hoeken and van Vliet 2000), while others asked if the respondent *felt* suspense (Kassler 1996; Mullet et al. 1994; Vorderer et al. 2001). For instance, Alwitt's (2002) suspense measure was, "The ad had suspense," and Comisky and Bryant (1982) asked, "How suspenseful was this [film] segment?" On the other hand, Kassler (1996) asked respondents, "As you read this text, how much suspense did you feel?" Similarly, Vorderer et al. (2001) had respondents indicate with a slider how much suspense they continuously felt by moving it up and down during exposure to a stimulus. While the difference between these two types measures may be minute, it does point out that suspense can be operationalized as an adjective that describes a film, narrative, etc. or as a noun that indicates one's affective state.

The above-mentioned measures appear the most valid in that these measures, at face value, seem to be measuring what they purport to. More problematic are those measures that attempt to measure suspense but may be measuring something else. For instance, some studies have measured negative affect, such as worry or fear (Hoffner and Cantor 1991; Jose and Brewer 1984), which may be qualitatively different from suspense. Additionally, physiological measures have been employed in suspense studies, although these measures were *implicitly* used to measure suspense. Both Zillmann et al. (1975) and Hoffner and Cantor (1991) evaluated whether suspense, which they manipulated by making some narratives more frightening than others, had an impact on story appreciation. They also measured skin temperature and heart rate, which presumably served as a manipulation check for their suspense manipulation (i.e., the higher the heart

rate, the more suspense felt). It may be that either of these types of measures—negative affect or physiological—are valid. However, it is difficult to judge whether that is the case since a uniform definition of suspense does not exist.

The above illustrations provide examples of how suspense is measured differently *across* studies, suggesting that different concepts of suspense are being tapped.

Additionally, another problem is that *within* some studies there appears to be a lack of congruency between how suspense is defined and how suspense is measured. For instance, Mattenklott (1996) notes that Zillmann's physiological measures of suspense may not be valid (e.g., Zillmann et al. 1975). This is because Zillmann has defined suspense as “empathetic distress”—a negatively valenced emotion. However, physiological measures, which the authors assumed to correspond to empathetic distress, do not indicate whether the person is in “distress.” It is possible that the physiological measures indicated positive emotions. This is not known because Zillmann did not measure the respondents' emotional state. Vorderer et al. (2001) also defined suspense as “empathetic distress,” yet their measure of suspense did not measure this negative affect. Suspense was measured by asking whether the respondent felt suspense—not distress or fear. Thus, in both of the above studies, suspense is conceptualized to contain negatively valenced emotion, yet their measures of suspense did not tap this specific affect and, therefore, do not demonstrate the negative affect that they proposed is contained in suspense.



### *Inconsistent Manipulations of Suspense*

Not only has the measurement of suspense been conflicting, but the manipulation of suspense in experiments has also been inconsistent. Several experiments have manipulated suspense by varying written passages, film segments, commercials, and sports contests. Doing so assumes authors have an understanding of the antecedents of suspense. In other words, to construct manipulations with differing degrees of suspense, authors must understand the structural elements of a film, narrative, etc. that elicit suspenseful reactions in the audience. A review of experimental studies, however, illustrates that authors disagree on what structural elements make a narrative suspenseful. Although these studies were discussed earlier, in which it was shown that there was conceptual confusion regarding the factors that increase suspense, they are also assembled here to specifically point out problems in the experimental manipulations.

Firstly, one author did not specify the factors that produce suspenseful reactions when creating her experimental manipulations. Rather, in her study of suspenseful television commercials, Alwitt (2002) had independent judges decide which ads were suspenseful. Thus, while this manipulation may have had face validity, little knowledge is gained as to exactly *why* these particular commercials were or were not suspenseful.

Secondly, some authors have implied through their manipulations that suspense is generated when there is a *high probability* that the protagonist will be harmed. Zillmann et al. (1975) manipulated suspense in a storyboard narrative of two boys encountering a lion. Suspense was manipulated by varying the description of the lion as being either normal, dangerous, or a man-killer. In other words, the more threatening a lion was

perceived, it is likely that the respondents also believed that the perceived probability the boys will be killed was higher. Additionally, Gerrig and Bernardo's (1994) manipulated suspense by varying the range of escape possibilities for the protagonists. Thus, it can be presumed that the fewer escape possibilities for the protagonist, the more frightening the text.

However, other manipulations of suspense have suggested that high *uncertainty* elicits suspense. Two studies that investigated how suspense impacted enjoyment in a sports context manipulated suspense by varying the score. These studies found that games with *closer* scores (high suspense conditions) were enjoyed more so than games in which the scores were not close (Gan et al. 1997; Sapolsky 1980). As mentioned previously, close scores are associated with *uncertainty*—the closer the score, the less certain one is about the outcome of the game. Comparatively, lopsided scores are associated with more certainty that the leading team will win. Yet these manipulations are not consistent with conceptualization put forth by several suspense scholars that a *high probability* of harmful/bad outcome generates suspense (Carroll 1996; Vorderer 1996; Zillmann 1996). While these studies were in a sports context, rather than in a dramatic context in which suspense theory has been developed, a sports contest is highly analogous to dramatic presentations. (In fact, World Wrestling Federation matches would be both a sport contest and a dramatic presentation!) One can think of the team or player he/she is rooting for as the protagonist. Certainly, the game would not be considered suspenseful if a person was highly certain that the opposing team or player would win.

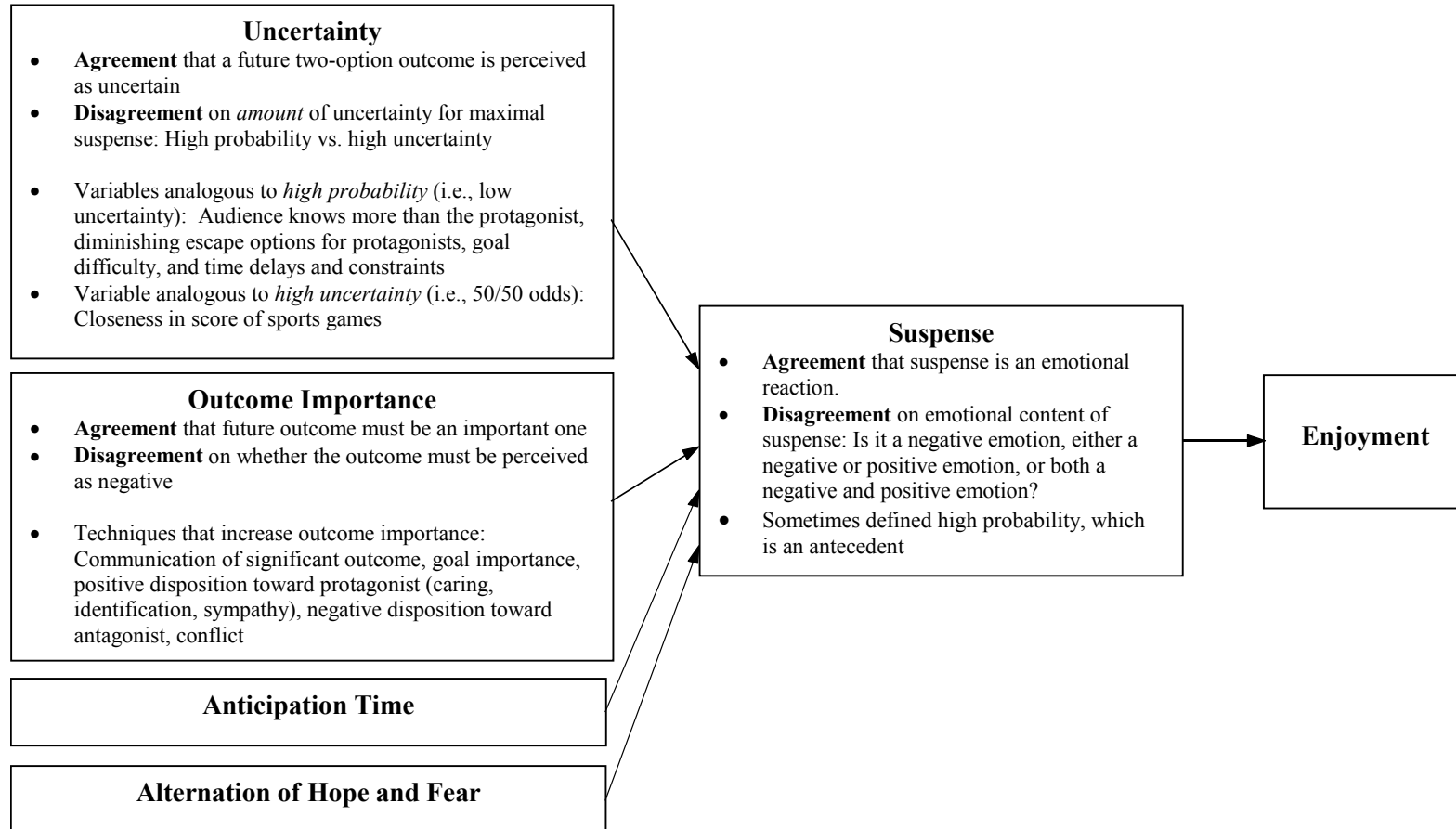
In sum, measurements and manipulations of suspense show vast inconsistencies. These inconsistencies are due to poor conceptualization of suspense, both in terms of defining the construct and identifying the antecedents that elicit suspense. Thus, empirical findings in the suspense literature should be interpreted with caution.

### Summary

Suspense has been identified as an essential element in enhancing the enjoyment of narratives and sports contests. While the importance of suspense has been noted for some time, the concept has only received serious academic consideration in the past 30 years.

Academics have made some progress in understanding suspense; however, several questions still remain. Issues concerning suspense and its antecedents and consequences, along with the relationships among them, are summarized in Figure 2.1. First, concerning the *definition* of suspense, most suspense researchers agree upon the notion that suspense is an emotional reaction. However, they do not agree on the emotional content of suspense: Is it a negative emotion, a positive emotion, either, or both? Second, in regards to the *antecedents* of suspense, two broad variables were identified in this review: uncertainty and outcome importance. How these two variables operate to create suspense is still up for debate, however. Suspense researchers are in disagreement on (1) what level of uncertainty is needed to create maximal suspense and on (2) whether these important outcomes must be negative. This second dispute is rooted in conflicting definitions of suspense as being a negative versus positive emotion. Further, two additional antecedents were considered. The alternation of hope and fear has

**FIGURE 2.1**  
**Summary of Antecedents and Consequences of Suspense**  
**As Identified in the Suspense Literature**



been suggested to increase suspense. Also, antecedents associated with time were considered. While anticipation time has been proposed to increase suspense, some argue that a delay (and thus an increase in anticipation time) is actually a manipulation of probability. Third, in regards to the *consequences* of suspense, there is agreement that suspense increases enjoyment. Although not included in the figure, this chapter also discussed the inconsistent measurement and manipulations of suspense, which are likely a consequence of the imprecise conceptualizations of suspense.

The discussion will now turn to the other literature related to suspense, particularly the emotion literature. While several suspense authors have suggested the emotional nature of suspense or have mentioned specific emotions associated with suspense, no studies in the suspense literature provide a thorough consideration of emotion research provided by psychologists. It is expected that an incorporation of emotion theory within suspense theory will offer a better understanding of suspense.

### CHAPTER III

#### CONCEPTUAL MODEL AND SUPPORTING LITERATURE

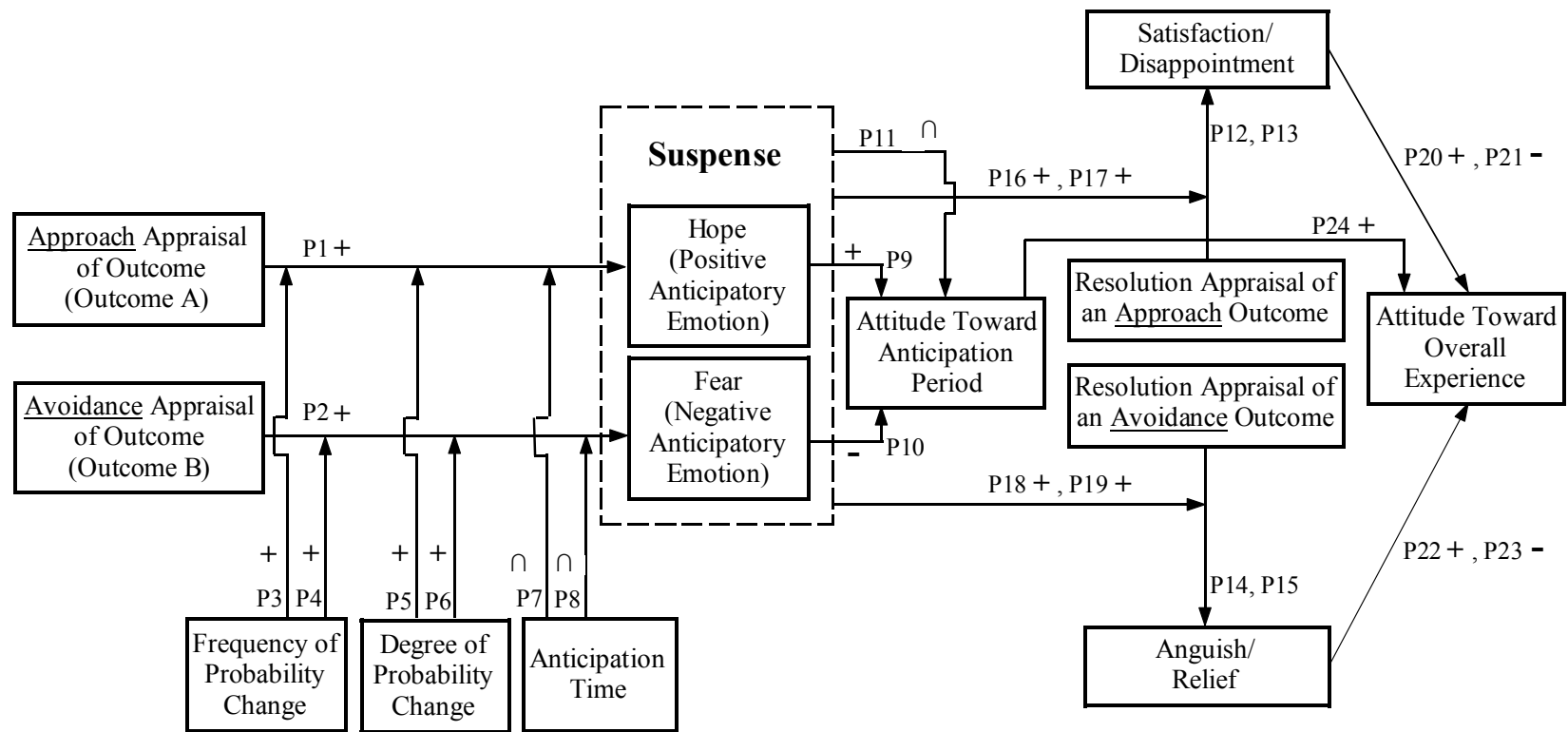
As revealed in Chapter II, there are inconsistencies in previous conceptualizations of suspense. The purpose of this chapter is to present a theory of suspense in the context of consumption/acquisition experiences that resolves these inconsistencies. The literature on emotion, as well as other literature in psychology, economics, and marketing, will be used to support this model. Figure 3.1 provides a model of the construct of suspense, its antecedents, and its consequences. Additionally, Table 3.1 provides definitions of the constructs in the conceptual model.

This dissertation proposes that *suspense* is the overall arousal associated with the anticipatory emotions of *hope* and/or *fear*. *Hope* is caused by an *approach appraisal of an outcome*, and *fear* is caused by an *avoidance appraisal of an outcome*. Further, it is proposed that three variables moderate these emotions throughout a suspenseful experience: *degree of probability change*, *frequency of probability change*, and *anticipation time*.

Regarding the consequences of suspense, the model proposes that suspense has a direct impact on *attitude toward anticipation period*, the time during which the person feels suspense (i.e., before the outcome is resolved). The hope and/or fear felt during the anticipation period also directly affect attitude toward anticipation period.

Additionally, the model assumes that the suspenseful experience will be resolved, at which point one's anticipatory emotions will transform into resolution emotions. The *resolution appraisal of an approach outcome* that an approach outcome occurs or does

**FIGURE 3.1**  
**A Conceptual Model of the Antecedents and Consequences of Suspense**



**TABLE 3.1**  
**Definition of Constructs**

<b>Construct</b>	<b>Definition</b>
<i>Suspense</i>	The overall anticipatory arousal associated with the hope and/or fear felt by a consumer assessing the likelihood of occurrence of an important and imminent consumption or acquisition event
<i>Approach Appraisal of Outcome</i>	The degree to which a consumer perceives that a consumption or acquisition event will cause physical or emotional <i>pleasure</i> .
<i>Hope (Positive Anticipatory Emotion)</i>	The overall amount of <i>positive</i> emotion experienced by a consumer assessing the likelihood of occurrence of a <i>pleasurable</i> consumption or acquisition event.
<i>Avoidance Appraisal of Outcome</i>	The degree to which a consumer perceives that a consumption or acquisition event will cause physical or emotional <i>pain</i> .
<i>Fear (Negative Anticipatory Emotion)</i>	The overall amount of <i>negative</i> emotion experienced by a consumer assessing the likelihood of occurrence of a <i>painful</i> consumption or acquisition event.
<i>Degree of Probability Change</i>	The perceived amount of positive change (on average) in the probability of a particular outcome (either Outcome A or B) during the anticipation period.
<i>Frequency of Probability Change</i>	The perceived frequency of change in the probability of a particular outcome (either Outcome A or B) during the anticipation period.
<i>Anticipation Time</i>	The total time of the anticipation period, which begins with the initiating event and ends with the resolution.
<i>Attitude Toward Anticipation Period</i>	An evaluation of one's experience during the anticipation period, which begins with the initiating event and ends just <i>before</i> the resolution.
<i>Resolution Appraisal an of Approach Outcome</i>	The perception of whether the expected outcome one wanted to approach did or did not occur.
<i>Resolution Appraisal an of Avoidance Outcome</i>	The perception of whether the expected outcome one wanted to avoid did or did not occur.
<i>Satisfaction</i>	The positive emotion experienced when an outcome with an approach appraisal (Outcome A) occurs.
<i>Disappointment</i>	The negative emotion experienced when an outcome with an approach appraisal (Outcome A) does <i>not</i> occur.
<i>Anguish</i>	The negative emotion experienced when an outcome with an avoidance appraisal (Outcome B) does occur.
<i>Relief</i>	The positive emotion experienced when an outcome with an avoidance appraisal (Outcome B) does <i>not</i> occur.
<i>Attitude Toward Overall Experience</i>	An evaluation of one's overall experience that includes both the anticipation period and the resolution.



not occur determines whether *satisfaction* or *disappointment* is experienced. Conversely, the *resolution appraisal of an avoidance outcome* that an avoidance outcome occurs or does not occur determines whether *anguish* or *relief* is experienced. It is also proposed that suspense moderates the relationship between confirmation/disconfirmation of an approach appraisal and satisfaction/disappointment and the relationship between confirmation/disconfirmation of an avoidance appraisal and anguish/relief. Finally, the *attitude toward the overall experience* is proposed to be a function of attitude toward anticipation period and any resolution emotions (satisfaction, disappointment, relief, or anguish) felt in response to the resolution.

While several individual difference factors likely moderate several of the relationships in the proposed conceptual model, such as sensation seeking or affect intensity, considering these variables is beyond the scope of this dissertation. Rather, this dissertation focuses on situational variables associated with suspense. This chapter will proceed by first reviewing the emotion literature. Then suspense will be defined. Following that, the antecedents of suspense will be discussed. This chapter will conclude by discussing the consequences of suspense.

### **A Brief Review of Emotion**

Suspense is defined as the overall anticipatory arousal associated with the hope and/or fear felt by a consumer assessing the likelihood of occurrence of an important and imminent consumption or acquisition event. Before providing a deeper description of suspense, however, a brief overview on emotion will be presented. This will provide support for the conceptualization of suspense put forth here—a conceptualization that is

consistent with suspense researchers' assertions that suspense is emotional in nature (Alwitt 2002; Barnet et al. 1971; Carroll 1996; de Wied et al. 1992; Kassler 1996; Mikos 1996; Ortony et al. 1988; Sternberg 1978; Vorderer and Knobloch 2000; Vorderer et al. 2001; Wuss 1996; Zillmann 1996).

In this dissertation, *emotion is defined as a valenced reaction accompanied by arousal, and this reaction is preceded by a cognitive appraisal of the environment in relation to one's well being*. This definition is based on two different streams in the emotion research—two streams that, for the most part, have remained independent of one another. These are the dimensional view and the cognitive appraisal theories.

### ***Dimensional View of Emotion***

The *dimensional view of emotion* supports the first half of the proposed definition that emotion is a *valenced reaction accompanied by arousal*. Specifically, this research stream provides considerable empirical evidence that valence (positive or negative feeling) and arousal are the major facets of emotion.

The dimensional approach, generally a data-driven research stream, is based on a methodology that has participants rate emotion words. A data reduction technique, most often multidimensional scaling, is then used to determine the underlying dimensions. The emotional words are plotted, and words falling closely together are believed to be similar. Two models are most commonly cited. Russell's (1980) Circumplex Model of Affect posits that there are two independent dimensions representing *pleasant-unpleasant* and *activation-deactivation* (or aroused-not aroused), while Watson and Tellegen's (1985)

model posits that there are two dimensions representing *positive affect* and *negative affect* and that arousal is what differentiates the emotions on each dimension.

Despite these differences, the models do not vary significantly. This is because the basic difference between the two is that in Watson and Tellegen's model, the dimensions are rotated 45 degrees. Thus, while the interpretations of the data differ, the positions of the emotional terms of the two models are generally in agreement. For instance, happy and sad are polar opposites in the space on both models. What is important to note is that the basic structure of emotion contains positive versus negative aspects as well as arousal aspects, the basis of the definition of emotion presented here. These next two sections will consider each of these aspects.

*Arousal.* While the term arousal has been used in several different ways, most researchers seem to agree that arousal is overall physiological reaction to a stimuli (Berlyne 1971; Russell 1980; Watson and Tellegen 1985). Berlyne (1971), noted for his work in arousal, provides an understanding of emotional arousal: "When emotions are said to be aroused, there is a higher than usual level of activation. In other words, behavior is on the whole more vigorous, and more energy is being expended" (p. 62). The dimensional researchers also seem to hold similar ideas. For instance, Russell and Barrett (1999) noted that activation (a term Russell often uses synonymously with arousal) refers to mobilization or energy, either the actual neuro-physiological changes in the body or the subjective experience of these changes. Additionally, Watson and Tellegen (1985) noted that the high end of each the positive and negative affect dimensions represents "a state of emotional arousal" (p. 221). Terms such as activation, energy, and activity have

all been used to refer to arousal. Although the term can refer to more specific aspects of arousal, it is assumed here to be general in nature.

An important point about arousal is that it has been related to the intensity of an emotion. For instance, Plutchik (1980) equated arousal to emotional intensity in one of the 10 postulates of his theory that states, "Each emotion can exist in varying degrees of intensity or levels of arousal" (p. 129). Additionally, arousal is sometimes referred to as the "quantity" of an emotion (Mandler 1984; Reisenzein 1994), meaning the more arousal, the more that particular emotion is felt. Berlyne (1971) also explicitly tied arousal and intensity together, stating, "an emotional state or, more generally, a motivational state has a certain intensity (arousal or activation level)" (p. 71).

In sum, arousal is considered to be a major component of emotion. It is a broad term that summarizes one's physiological state and encompasses such things as neuro-physiological arousal, subjective arousal, and terms related to a person's potential mobilization, such as action readiness and action tendencies. Also, arousal has been associated with emotional intensity.

*Valence.* As noted by the dimensional researchers, valence refers to whether the felt reaction is positive or negative. Other theorists have also noted that an emotion must have this element. For instance, Ortony et al.'s (1988) definition of emotion included "valenced reactions" (p. 13). More specifically, these authors argue that the two basic types of emotional reactions are positive and negative, stating that, "Valenced reactions are the essential ingredients of emotions in the sense that all emotions involve some sort of positive or negative reaction to something or other" (p. 29). An example of Ortony et

al.'s (1988) conceptualization is their position on surprise, which they do not believe is an emotion because they view it as unvalenced unexpectedness. Lazarus (1991) holds a view similar to Ortony et al., stating that reactions that consist of *contentless* excitement or arousal should not be included in the emotion family. Frijda, Ortony, Sonnemans, and Clore (1992) also have a similar understanding, noting that the “feeling component of emotion” (one of the four components they mention) includes the feeling of pleasure or pain. According to Frijda (1986), cognitive theorists believe that pleasure and pain are “central” to the experience of emotion.

### ***Cognitive Appraisal Theories of Emotion***

In relation to the proposed definition of emotion stated at the beginning of this section, the cognitive appraisal theories provide support for the second half of the definition—that an emotion is *a reaction preceded by a cognitive appraisal of the environment in relation to one's well being*. As mentioned, the dimensional view was able to show that valence and arousal were fundamental components of emotion. However, the dimensional view did not sufficiently differentiate between the emotions. Thus, the second half of the definition implies that cognitive appraisals provide information that determines which specific emotion is felt. These ideas will be expanded in this section.

While the dimensional view appears to have provided an understanding that valence and arousal are the underlying dimensions of “core affect,” one major criticism of this view is that it does not properly differentiate between discrete emotions. For instance, the emotions angry and afraid sit side by side within Russell's (1980)

Circumplex model. However, it can be easily argued that these two emotions have very different emotional content.

The more recent *cognitive appraisal* theories, however, attempt to differentiate emotions and are gaining wide acceptance. The cognitive appraisal theorists (Frijda 1986; Lazarus 1991; Mandler 1984; Ortony et al. 1988; Roseman 1991; Roseman et al. 1996; Roseman et al. 1990; Schachter and Singer 1962; Smith and Ellsworth 1985) assert that emotions arise based on the appraisal of changes in a person's environment and that these changes are assessed in relation to the individual's well-being. These theorists have identified several cognitive dimensions on which emotions can be segmented. For instance, two common dimensions are uncertainty (certain and uncertain) and agency (whether the self, another person, or the situation is responsible) (Roseman et al. 1996; Smith and Ellsworth 1985). Furthermore, different combinations of these dimensions result in different emotions.

While the cognitive appraisal theories are not in total agreement, there appears to be agreement concerning several dimensions. Furthermore, the cognitive appraisal theories have a distinct advantage over older approaches in that they indicate the *antecedents* that lead to specific emotions. They have introduced a markedly different and a more unified theoretically-based perspective that specifies discrete emotions. This cognitive appraisal approach has been widely tested and has held up to its predictions. Thus, cognitive psychologists are beginning to show common acceptance of the theory (Kumar and Oliver 1997). In recent years, marketing researchers have also begun to accept the cognitive appraisal view as a useful theoretical foundation (i.e., Bagozzi et al.

1999; Dube' and Menon 2000; France and Park 1997; Kumar and Oliver 1997; Nyer 1997a; Nyer 1997b; Ruth et al. 2002; Smith and Bolton 2002).

Thus, in relation to the proposed definition of emotion, the cognitive appraisal theories provide support for the second half of the definition—that emotion is a *reaction that is preceded by a cognitive appraisal of the environment in relation to one's well being*. As mentioned, the dimensional view was able to show that valence and arousal were fundamental components of emotion but did not sufficiently differentiate between the emotions. Thus, the second half of the definition, cognitive appraisals, is needed because emotions are thought to be more specific forms of affect, and cognitive appraisals of the environment in relation to one's well being specify the emotion felt.

*Appraisals and arousal.* One issue that should be pointed out is that emotion may not simply be part cognitive appraisal and part arousal, as put forth by some theorists (Mandler 1984; Ortony et al. 1988). As an addendum to this part appraisal/part arousal view, Ortony et al. (1988) also claimed that the appraisal and arousal components are analogous to the valence and arousal components specified by the dimensional researchers; thus, they postulated that appraisal equals valence, and arousal equals activation (or arousal).

However, this assumption may be erroneous. While they seem to argue that cognitive appraisal and arousal are the two independent antecedents of an emotion, a more appropriate conceptualization is that a *cognitive appraisal can lead to arousal*. For instance, unexpectedness is a cognitive dimension identified by some appraisal theorists (Roseman et al. 1996; Smith and Ellsworth 1985), yet this cognitive dimension has been

postulated to increase arousal or emotional intensity (Oliver et al. 1997; Ortony et al. 1988). Further, some emotion theorists assume that this cognitive appraisal of unexpectedness does *not* produce valence (Lazarus 1991; Ortony et al. 1988). Thus, cognitive appraisals not only specify a particular emotion, including its valence, they may additionally determine the *amount of emotional arousal or intensity felt* (i.e., the more unexpected, the more arousal or emotional intensity).

The above point is important because cognitive appraisal and arousal have not been adequately integrated into theories of emotion (Bagozzi et al. 1999) or have considered interactions between appraisal and arousal (Ortony et al. 1988). Furthermore, as mentioned previously, the cognitive appraisal and the dimensional perspectives have been distinct research streams and have rarely crossed paths. The conceptualization and definition of emotion presented here is an attempt to integrate these two approaches, suggesting that, these two streams complement rather than compete against one another. Further, such a conceptualization is assumed to better explain suspense.

### ***Affect, Emotion, Mood, and Attitude***

Bagozzi et al. (1999) provide an understanding of how the similar terms of affect, mood, and attitude differ from the term emotion. They suggest *affect* provides an umbrella concept under which the more specific concepts of emotion, mood, and attitude reside, and it refers to general “mental feeling processes” (p. 184). Specifically, affect can be explained as a positive or negative feeling (Frijda et al. 1992). Emotion can be distinguished from moods in that generally *moods* last longer in duration than do emotions, are lower in intensity, and are often not coupled with action



readiness/tendencies. However, the biggest distinguishing factor is that moods do not have specific referents as do emotions (Lazarus 1994). Lazarus (1994) provides further elaboration: "Although, if pressed, we might try to explain mood by pointing to a specific event, when we are in a mood we rarely pin it down to anything specific, which is why moods are so vague and pervasive" (p. 84). In considering the difference between emotion and attitude, most authors define *attitudes* as evaluative judgments of a stimulus. Thus, according to Bagozzi et al., what differentiates attitudes from emotions is that attitudes do not have an arousal component. Attitudes, thus, can be considered reactions to mundane objects in which there is likely no motivational link (i.e., desire) to the object. Because no arousal is present, a strong connection between attitude and action is not likely as is the case with emotion and action. Finally, attitudes can be stored in memory, while emotions, on the other hand, are short-lived.

Furthermore, this differentiation is consistent with the proposed definition. Affect can be considered any reaction that includes valence. Thus, emotions, moods, and attitude can all be considered a type of affect because they are all associated with positive or negative evaluations. In separating these three, moods do not contain the cognitive appraisal component, while attitudes do not contain the arousal component. In order to be considered an emotion, both of these components must be present. Thus, consistent with the proposed definition, an emotion must be positive or negative (valence), must have some arousal associated with it, and a cognitive appraisal must be invoked to determine the referent and, thus, the specific emotion.

## Suspense

Based on this view of emotion that combines the dimensional view (valence and arousal) and the cognitive appraisal theories, the conceptualization of suspense can now be presented. As stated, *suspense* is defined as *the overall anticipatory arousal associated with the hope and/or fear felt by a consumer assessing the likelihood of occurrence of an important and imminent consumption or acquisition event*. An acquisition event refers to the possibility of a consumer attaining product or service. An example of an acquisition event is whether someone will win an eBay auction since winning the auction would mean that they would attain the item on auction. Suspense is assumed to be an arousing experience—or, more specifically, an *emotionally* arousing experience. Thus, this experience contains positive and negative feelings, rather than “contentless” arousal that could be caused by exercise or drugs, for example. Further, hope and fear are the emotions felt when in suspense. As discussed previously, emotions are assumed to be composed of arousal. Thus, the more often and more intense one feels hope throughout an experience, the more suspense, or anticipatory arousal, one should feel, and the more often and more intense one feels fear throughout an experience, the more suspense, or anticipatory arousal, one should feel.

This definition implies several conditions and assumptions—that outcome uncertainty, outcome importance, and outcome imminence are necessary conditions of suspense, that suspense is an experience, and that suspense is more arousing than other emotional experiences. Each of these conditions/assumptions will be discussed and are summarized in Table 3.2.

**TABLE 3.2**  
**A Conceptualization of Suspense:**  
**A Definition, Conditions, and Assumptions**

<b>Definition</b>
<ul style="list-style-type: none"> <li>• The overall anticipatory arousal associated with the hope and fear felt by a consumer assessing the likelihood of occurrence of an important and imminent consumption or acquisition event.</li> </ul>
<b>Conditions</b>
<p><b>Outcome Uncertainty</b></p> <ul style="list-style-type: none"> <li>• “Will X occur?” is asked, with two mutually exclusive outcomes (Outcome A and Outcome B) possible.</li> <li>• Anticipatory emotions of hope and fear are associated with outcome uncertainty.</li> </ul> <p><b>Outcome Importance</b></p> <ul style="list-style-type: none"> <li>• Either or both outcomes (Outcome A and/or Outcome B) must be perceived as important.</li> <li>• Hope and fear are elicited only when a person’s well being is perceived as being potentially impacted.</li> </ul> <p><b>Outcome Imminence</b></p> <ul style="list-style-type: none"> <li>• Only when the outcome is close in proximity will strong emotions of hope and fear arise.</li> <li>• This assumes the approximate time of the outcome is known.</li> </ul>
<b>Assumptions</b>
<p><b>Suspense is an experience.</b></p> <ul style="list-style-type: none"> <li>• Occurs throughout the anticipation period, which begins with an initiating event and ends with a resolution.</li> <li>• Implies that overall hope, fear, and suspense are what of interest, rather than hope, fear, and suspense at particular points in time.</li> </ul> <p><b>Suspense is more arousing than other emotional experiences.</b></p> <ul style="list-style-type: none"> <li>• Uncertainty is presumed to be more arousing than certainty (Berlyne 1960).</li> </ul>

### *Suspense and Outcome Uncertainty*

The notion that hope and fear are the emotions one should feel throughout a suspenseful experience is based the work of the cognitive appraisal theorists. As discussed in Chapter II, one aspect of suspense that researchers have agreed upon is that it requires uncertainty. More specifically, suspense is related to *uncertainty about an upcoming event*. Consistent with Carroll (1996) and others (Ohler and Nieding 1996; Sternberg 1978), when a consumer is uncertain about an upcoming event, the question “Will X occur?” is posed, and two mutually exclusive outcomes—“X will occur” (Outcome A) and “X will not occur” (Outcome B)—are perceived as possible. In a marketing context, for example, a consumer could ask, “Will I make my connecting flight?” with Outcome A being the consumer will make his/her connecting flight and with Outcome B being the consumer will not make his/her connecting flight. Thus, when in suspense, a consumer will be assessing the likelihood of whether a particular event will occur. A likelihood of 0% or 100% that Outcome A will occur would produce no suspense because in this situation whether the event will occur is certain. Because the two outcomes are perceived to be mutually exclusive, the likelihood of Outcome B would be the inverse of Outcome A. In other words, a 90% perceived likelihood that a consumer will miss his/her flight could also be expressed as a 10% perceived likelihood that a consumer will not miss his/her flight.

Relating this to the cognitive appraisal theorists’ view, they see certainty versus uncertainty as a cognitive dimension that distinguishes *anticipatory emotions* (Loewenstein, Weber, Hsee, and Welch 2001) from other emotions. Specifically,

anticipatory emotions, also referred to as anticipation emotions (MacInnis and de Mello forthcoming, 2004), prospect emotions (Ortony et al. 1988), preparatory emotions (Roseman et al. 1996), and outcome-desire pursuit or outcome-desire avoidance emotions (Bagozzi 1992), are felt when a person is uncertain. Further, several authors have specified that *hope* and *fear* are the two emotions that are felt when a person is uncertain about an outcome, with hope being a positive emotion and fear being a negative emotion (Bagozzi 1992; MacInnis and de Mello forthcoming, 2004; Ortony et al. 1988; Roseman et al. 1996; Smith and Ellsworth 1985).

Thus, the emotions of hope and fear, and *only* these emotions, are related to uncertainty about a future outcome, a condition that has been proposed by researchers to elicit suspense. It is proposed here that the overall suspense felt during an experience is comprised of the amount of hope felt in addition to the amount of fear felt. Depending on how the possible outcomes are appraised, only hope, only fear, or both hope and fear can be felt throughout the suspenseful experience. Hope and fear, and the possibility of feeling both hope and fear, will be discussed in more detail when considering their antecedents.

This conceptualization that suspense can be hope, fear, or both hope and fear is expected to clarify the specific emotional content of suspense. As discussed in Chapter II, although suspense researchers are in agreement that suspense is emotional, they have not agreed on the specific type of emotion felt during suspenseful experiences. Most of the conceptualizations of suspense have suggested that suspense is a negative or fearful state (Brewer 1996; Carroll 1996; Comisky and Bryant 1982; de Wied 1994; Gerrig and

Bernardo 1994; Hoffner and Cantor 1991; Tan and Ditlewieg 1996; Vorderer et al. 2001; Zillmann 1996). However, others have conceptualized suspense as a hopeful or positive state (Caplin and Leahy 2001; Mullet et al. 1994; Pine and Gilmore 1999). Some have even stated that suspense must contain both hope and fear (Barnet et al. 1971; Ortony et al. 1988; Sternberg 1978). Only Zillmann (1996) has contended that suspense can be a positive or negative emotion. However, he has made this claim only about “general suspense;” he claims that dramatic suspense is driven mostly by fear. Zillmann’s assumption is in disagreement with the model suggested here, which purports to be a general model of suspense. Further, the notion that dramatic suspense can consist of emotion other than fear is suggested by two additional sources, as mentioned in Chapter II. First, Hitchcock (Truffaut 1966) has noted that dramatic suspense need not include fear. He provided an example in which a telephone operator overhears a possible marriage proposal. In this situation, the telephone operator’s suspenseful experience was likely one of hope or positive anticipation. Second, Brewer and Lichtenstein (1981) found that a dramatic narrative with a possible positive outcome (which would elicit the emotion of hope) produced just as much suspense as a narrative with a possible negative outcome (which would elicit the emotion of fear). Thus, this evidence, as well as the conceptualization of anticipatory emotion provided by cognitive appraisal theorists, suggests that suspense can be not only a fearful experience but also a hopeful one, or both hopeful and fearful.

### ***Suspense and Outcome Importance***

While uncertainty is a condition that suspense researchers seem to agree upon, it is not the only condition for suspense. Suspense researchers have also noted that the importance of the outcome is another condition required for suspense (Brewer 1996; Brewer and Lichtenstein 1982; Carroll 1984; Jose 1988; Jose and Brewer 1990; Kassler 1996; Luelsdorff 1995; Tan and Diteweg 1996; Wuss 1996; Zillmann 1996), as discussed in Chapter II. The fact that a person is uncertain about the outcome of a consumption/acquisition event is not sufficient to produce suspense; the outcome must be important as well.

This is analogous to the cognitive appraisal theorist's view that for an emotion to occur it must impact (or have the potential to impact) a person's well being. If a person does not feel as though their well being is or will be bettered or threatened, that person should feel little arousal. In this case, the person may only have an attitude rather than feel emotion. Thus, for hope and fear, the components of suspense, to occur, a person must feel that an upcoming event has the potential to impact their well being.

### ***Suspense and Outcome Imminence***

Suspense researchers have identified two conditions of suspense that are consistent with the anticipatory emotions of hope and fear: outcome uncertainty and outcome importance. Event importance was just described as required because, without it, little arousal, and thus emotion, will be felt. This dissertation asserts that a third condition is also required for suspense, or hope and fear: event imminence. Suspense occurs only when the consumption/acquisition event is perceived as occurring soon. This

also implies that the person has some approximate expectation about *when* the resolution will occur. Several researchers have suggested or empirically shown the importance of the resolution's imminence regarding the intensity of hope and fear. Loewenstein, Weber, Hsee, and Welch (2001) and Ortony et al. (Ortony et al. 1988) have conceptualized that the proximity of an event increases one's anticipatory emotions (i.e., hope and fear). Similarly, researchers' conceptualizations of fear (Breznitz 1984) and worry (Tallis and Eysenck 1994) propose that threats that are perceived to be imminent increase fear and worry. A multitude of empirical studies on fear (or worry, stress, etc.) have replicated this effect (Averill and Rosenn 1972; Breznitz 1967; Elliott, Bankart, and Light 1970; Epstein and Roupelian 1970; Folkins 1970; Hess and Breznitz 1971; Mansueto and Desiderato 1971; Monat, Averill, and Lazarus 1972; Petry and Desiderato 1978). Specifically, these researchers have discovered a U-shape curve, in which, following a threat (i.e., an initiating event), physiological responses or reported stress increases in the initial stages, decreases in the middle stages, and then sharply increases in the final stages of the anticipation period as the imminent event approaches. In these studies, the participants knew the time of the expected event.

However, in studies in which the time of the danger was *not known* (i.e., temporal uncertainty), this pattern was not found. Rather, reported or physiological stress in response to the threat of an electric shock initially peaked, then dropped off as time increased (Elliott 1969; Mansueto and Desiderato 1971; Monat 1976; Monat et al. 1972; Petry and Desiderato 1978). Therefore, researchers have concluded that a person must have an expectation of when the upcoming event will occur in order for stress or fear to



increase in the final stages on the anticipation period. This idea is thought to generalize to positive emotions as well. Concerning both fear and hope, Ortony et al. (1988) have stated that when there is no expectation about when the event will occur, the proximity variable is impotent since in such a case a person is “shooting at a moving target” (p. 117). Thus, in order to feel the anticipatory emotions of hope and fear throughout the experience, and, thus, suspense, the upcoming resolution must be imminent and, therefore, its approximate time must be known.

### ***Suspense as an Experience***

As mentioned, uncertainty is necessary for suspense. In order for uncertainty about an upcoming consumption/acquisition event to exist, a consumer must have some expectation that the event will occur. The expectation that an event will occur is elicited by an *initiating event* (Brewer and Lichtenstein 1982; Hoffner and Cantor 1991; Wulff 1996). For example, spotting several ant-like bugs crawling under the kitchen sink could act as an initiating event that may elicit the question of “Do we have termites?” Similarly, finding a sought-after collectable on eBay could also act as an initiating event, eliciting the question, “Will I win this eBay auction?” These examples would be *externally* elicited initiating events because the factors in the environment have signaled an event may occur. However, initiating events could be *internally* elicited as well, as when a consumer changes his/her goals. For instance, if a person decides he/she will make a \$100 bet at the craps table, this decision will act as an initiating event and elicit the question, “Will I win this \$100 craps bet?” Further, suspense has also been proposed to conclude with a *resolution*, at which point the person is longer uncertain about which of

the two outcomes will occur. This period between the initiating event and the resolution will be referred to here as the *anticipation period*.

The notion that there is an anticipation period that extends between the initiating event and the resolution brings up an important point: suspense can be conceptualized as an experience. The word suspense itself implies that an outcome has been suspended and thus that it is dynamic or temporal in nature rather than a static concept. *The notion that suspense can be conceptualized as an experience is an important one that has not been clearly identified by suspense researchers.* Luelsdorff (1995) is the only researcher that acknowledges that suspense can be conceptualized as being either static or dynamic. However, he seems to believe that a dynamic conceptualization of suspense is most appropriate: "The static approach to understanding experience involves the apparently timeless description of phenomena as states or conditions. Experience, however, is always dynamic" (p. 3).

It is argued here that most researchers have conceptualized suspense in a static sense. Variables that consider the dynamic nature of the suspenseful experience, such as the length of the anticipation time and particularly how the probability of an upcoming outcome changes, have not been thoroughly considered and incorporated into theories or empirical tests of suspense. Thus, the view taken here is that suspense is best understood when it is conceptualized as an *experience* rather than as a *state*. This conceptualization, then, does not attempt to explain one's hope, fear, and suspense, at discrete points in time. Rather, the conceptualization provided here attempts to explain one's *overall* feelings of hope, fear, and suspense throughout the anticipation period, which is stated in

the definitions of these constructs. Viewing suspense as an experience that occurs over time will likely help to unravel the conceptual disorder surrounding the construct.

Supporting this notion, management scholars have called for an incorporation of time into theory construction, which they believe will clarify some theoretical debates. George and Jones (2000) stated: "We claim that the role of time must be explicitly incorporated into a theory (and not just treated as a boundary condition) if a theory is to provide an ontologically accurate description of a phenomenon . . . Some of the ongoing ambiguities and debates in research literature can be traced to the failure to explicitly incorporate the element of time into theory building . . . By and large, time, in all its complexity, has not been adequately taken into account" (p. 658). Further, recent research in the psychological interpretation of events provides grounds that an event can be conceptualized as a unit by including the dimension of time within that construct. Zacks and Tversky (2001) have conceptualized an event as "a segment of time at a given location that is conceived by an observer to have a beginning and an end" (p. 3). Thus, their interpretation of an event is similar to the view of an experience here—a suspenseful experience is proposed to have a beginning and an end. Further, they have noted that people perceive events similar to that of an *object*. The difference between the two is that the perception of an object includes the three dimensions of space, while the perception of an event includes those three dimensions and an additional fourth dimension of *time*. Thus, their assumption supports the view here that suspense can be conceptualized as an event or experience that extends over time.

### *The Arousing Nature of Suspense*

All emotions are assumed to have an element of arousal. However, it is argued here that hope and fear are, compared to most other emotions, high in arousal. In other words, an emotional experience involving these emotions is likely more intense than an experience that involves other emotions. This notion that anticipatory emotions are more arousing than most other emotions is consistent with Berlyne's (1960) work on arousal, in which he claims that uncertainty is one factor that increases arousal. As mentioned, uncertainty is a common premise of the anticipatory emotions of hope and fear.

Further, two pieces of evidence support this notion. First, suspense and stress have often been tapped using physiological measures (those that measure arousal), such as heart rate and skin conductance, which cannot be said for most emotions such as joy, grief, etc., which must be tapped with verbal measures. In particular, one stress study provides strong evidence that arousal is high when a person is uncertain. Nomikos, Opton, Averill, and Lazarus (1968) studied participants' heart rate and skin conductance while watching filmed milling accidents. They found that these physiological measures increased as participants watched the saw's blade move closer to the person's body, yet once the blade made contact, their physiological reactions quickly diminished, even though the accident lasted for several seconds. The authors concluded: "Most of the stress reaction occurs during the anticipation or threat period, rather than during the actual confrontation when the subject views the accident itself" (p. 207). Thus, the participants were more highly aroused when they were *uncertain* about whether the blade would

make contact compared to when they were *certain* the blade had made contact. While this study was likely eliciting fear, the notion is thought to generalize to hope.

Second, the dimensional researchers provide some support as well (Russell 1980; Watson and Tellegen 1985). Studies that have measured several emotions and used multidimensional scaling have found that the positive emotions that were high on arousal are similar to hope and that the negative emotions that were high on arousal are similar to fear. For instance, Russell's (1980) perceptual map indicates that excitement is the emotion that is in the high arousal/positive quadrant, while distress is the emotion that is in the high arousal/negative quadrant. Similarly, Watson and Tellegen (1985) note that "high positive affect" ("high" meaning high in arousal) is associated with emotions such as enthusiastic and excited and that "high negative affect" is associated with emotions such as distressed, fearful, and nervous.

### ***Suspense: A Summary of the Construct***

Suspense has been described here as experience of anticipatory arousal that contains the emotions of hope and/or fear. Based on the work of cognitive appraisal theorists, hope and/or fear are the emotions that are felt when one is uncertain, a condition that suspense researchers agree is required for suspense. Further, the consumption or acquisition event must be perceived as important and imminent; otherwise little emotion will be felt throughout the experience. Further, suspense is also conceptualized here as an experience. Suspense begins with an initiating event, which signals an event is on the horizon, and ends with a resolution. This time period, in which the consumer is uncertain, is referred to as the anticipation period. Thus, this

conceptualization explains one's overall arousal throughout the anticipation period rather than at a discrete point in time. Finally, a suspenseful experience is highly arousing compared to many other emotional experiences, likely because of the uncertainty associated with it.

The remainder of the chapter will describe the antecedents and consequences of suspense, as depicted in the model in Figure 3.1. The propositions in this model are summarized in Table 3.3. Next, hope and fear are defined and their antecedents are specified.

### **Direct Antecedents of Suspense:**

#### **Approach and Avoidance Appraisals**

The experience of suspense, or the arousal due to the emotions of hope and/or fear during the anticipation period, is directly impacted by two variables: *Approach appraisal of outcome* is the antecedent of hope, and *avoidance appraisal of outcome* is the antecedent of fear.

As discussed, cognitive appraisal theorists have noted that hope and fear occur when a person is uncertain. They also note that how an upcoming event is appraised is what differentiates hope and fear. For instance, Bagozzi (1992) identified hope as an emotional reaction that is experienced when anticipated goals or outcomes are pleasant, while fear is an emotional reaction that is experienced when the anticipated goals or outcomes are unpleasant. Similarly, Ortony et al. (1988) also have a similar conceptualization. They view hope emotions as those that occur when a person is pleased

**TABLE 3.3**  
**Summary of Propositions**

- 
- Proposition 1: The greater the *approach appraisal of an outcome*, the greater the *hope* felt during the anticipation period.
- Proposition 2: The greater the *avoidance appraisal of an outcome*, the greater the *fear* felt during the anticipation period.
- Proposition 3: *Frequency of probability change* moderates the relationship between the *approach appraisal of an outcome* and *hope*. The stronger the *frequency of probability change*, the greater will be the relationship between the *approach appraisal of an outcome* and *hope* (*positive anticipatory emotion*).
- Proposition 4: *Frequency of probability change* moderates the relationship between the *avoidance appraisal of an outcome* and *fear*. The stronger the *frequency of probability change*, the greater will be the relationship between the *avoidance appraisal of an outcome* and *fear* (*negative anticipatory emotion*).
- Proposition 5: *Degree of probability change* moderates the relationship between the *approach appraisal of an outcome* and *hope*. The stronger the *degree of probability change*, the greater will be the relationship between the *approach appraisal of an outcome* and *hope* (*positive anticipatory emotion*).
- Proposition 6: *Degree of probability change* moderates the relationship between the *avoidance appraisal of an outcome* and *fear*. The stronger the *degree of probability change*, the greater will be the relationship between the *avoidance appraisal of an outcome* and *fear* (*negative anticipatory emotion*).
- Proposition 7: *Anticipation time* moderates the relationship between the *approach appraisal of the outcome* and *hope* in the form of an inverted-U. An *anticipation period* of moderate length will impact the relationship between the *approach appraisal of an outcome* and *hope* more strongly than a short or a long anticipation period.
- Proposition 8: *Anticipation time* moderates the relationship between the *avoidance appraisal of the outcome* and *fear* in the form of an inverted-U. An *anticipation period* of moderate length will impact the relationship between the *avoidance appraisal of an outcome* and *fear* more strongly than a short or a long anticipation period.
- Proposition 9: The more *hope* felt during the anticipation period, the more positive the *attitude toward anticipation period*.
- Proposition 10: The more *fear* felt during the anticipation period, the more negative the *attitude toward anticipation period*.
-

TABLE 3.3 (Continued)

- 
- Proposition 11: *Suspense* has an effect on *attitude toward anticipation period* in the shape of an inverted-U. The anticipation period will be evaluated more positively when suspense is at moderate levels than when at low or high levels.
- Proposition 12: A *resolution appraisal of an approach outcome (Outcome A)* in which the outcome is perceived to have occurred will cause *satisfaction*.
- Proposition 13: A *resolution appraisal of an approach outcome (Outcome A)* in which the outcome is perceived to have *not* occurred will cause *disappointment*.
- Proposition 14: A *resolution appraisal of an avoidance outcome (Outcome B)* in which the outcome is perceived to have occurred will cause *anguish*.
- Proposition 15: A *resolution appraisal of an avoidance outcome (Outcome B)* in which the outcome is perceived to have *not* occurred will cause *relief*.
- Proposition 16: *Suspense* moderates the relationship between the *resolution appraisal of an approach outcome* and *satisfaction*. The more suspense during the anticipation period, the stronger the relationship between the *resolution appraisal of an approach outcome* and *satisfaction*.
- Proposition 17: *Suspense* moderates the relationship between the *resolution appraisal of an approach outcome* and *disappointment*. The more suspense during the anticipation period, the stronger the relationship between the *resolution appraisal of an approach outcome* and *disappointment*.
- Proposition 18: *Suspense* moderates the relationship between the *resolution appraisal of an avoidance outcome* and *anguish*. The more suspense during the anticipation period, the stronger the relationship between the *resolution appraisal of an avoidance outcome* and *anguish*.
- Proposition 19: *Suspense* moderates the relationship between the *resolution appraisal of an avoidance outcome* and *relief*. The more suspense during the anticipation period, the stronger the relationship between the *resolution appraisal of an avoidance outcome* and *relief*.
- Proposition 20: The greater the *satisfaction* felt at the resolution, the more positive the *attitude toward the overall experience*.
- Proposition 21: The greater the *disappointment* felt at the resolution, the more negative the *attitude toward the overall experience*.
-



**TABLE 3.3 (Continued)**


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Proposition 22: The greater the <i>relief</i> felt at the resolution, the more positive the <i>attitude toward the overall experience</i> .
Proposition 23: The greater the <i>anguish</i> felt at the resolution, the more negative the <i>attitude toward the overall experience</i> .
Proposition 24: The more positive the <i>attitude toward anticipation period</i> , the more positive the <i>attitude toward the overall experience</i> .

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about the prospect of a desirable event. Fear emotions are seen as those emotions that occur when a person is displeased about the prospect of an undesirable event.

More specifically, whether a person feels hope or fear concerning a future outcome is based on the view that two independent affect systems operate in relation to one's well being. The notion that a person will feel the urge to *approach* a stimulus or to *avoid* a stimulus has been an important differentiating factor of positive and negative emotions in the cognitive appraisal theories (Roseman 1991; Smith and Ellsworth 1985). For instance, Roseman et al. (1996) differentiated hope and fear as more that a positive versus negative or pleasant versus unpleasant: he asserted that hope is felt when cognitive appraisals concerning an event outcome are *appetitive* (i.e., approach), whereas fear is felt when cognitive appraisals are *aversive* (i.e., avoidance). Basically, the approach system is believed to manage incentive motivation and behavior, while the avoidance system is believed to manage withdrawal motivation and behavior. Recently, several theorists in psychology have summarized research conducted over the past 15 years in the neurosciences that provides additional support for the premise that two separate approach

and avoidance affect systems exist (Cacioppo, Gardner, and Bernston 1999; Carver 2001; Davidson 1998; Larsen, McGraw, and Cacioppo 2001). For example, studies have found that approach tendencies are related to the brain's left frontal cortex (Cacioppo and Petty 1980; Fox and Davidson 1988; Sobotka, Davidson, and Senulis 1992) and the mesolimbic dopaminergic pathway (Hoebel, Rada, Mark, and Pothos 1999). Avoidance tendencies, on the other hand, were found to associate with the right frontal cortex (Davidson, Ekman, Saron, Senulis, and Friesen 1990; Davidson, Marshall, Tomarken, and Henriques 2000; Sobotka et al. 1992) and the amygdala (Halgren 1982; Irwin, Davidson, Lowe, Mock, Sorenson, and Turski 1996; LeDoux 1995).

Thus, an *approach appraisal of an outcome* is defined as *the degree to which a consumer perceives that a consumption/acquisition event will cause physical or emotional pleasure*, and *hope* is defined as *the overall amount of positive emotion experienced by a consumer assessing the likelihood of occurrence of a pleasurable consumption/acquisition event*. On the other hand, an *avoidance appraisal of an outcome* is defined as *the degree to which a consumer perceives that a consumption/acquisition event will cause physical or emotional pain*, and *fear* is defined as *the overall amount of negative emotion experienced by a consumer assessing the likelihood of occurrence of a painful consumption/acquisition event*. The more an outcome is perceived as something one wishes to approach, the more hope a person will feel, while the more an outcome is perceived as something one wishes to avoid, the more fear a person will feel. Thus, the two propositions are put forward:

P1: The greater the *approach appraisal of an outcome*, the greater the *hope* felt during the anticipation period.

P2: The greater the *avoidance appraisal of an outcome*, the greater the *fear* felt during the anticipation period.

A few issues should be addressed at this point. First, in regards to the model, it should be noted that *approach appraisal of an outcome* and *avoidance appraisal of an outcome* are *not* two levels of a dichotomous variable. It is the perceived *resolution* that is dichotomous—whether Outcome A (X will happen) or Outcome B (X will not happen) will occur. How a person evaluates each of these possible outcomes are two distinct variables—an evaluation of Outcome A and an evaluation of Outcome B.

Second, this distinction between approach and avoidance affect systems should clarify an issue that is likely to surface regarding the meaning of hope presented in this dissertation. Hope has several meanings in everyday language. According to the *Merriam-Webster Dictionary*, the word hope can be used as a noun to indicate a state in which one desires something *or* a state in which one expects or believes that a particular outcome is likely. Additionally, hope can also be used as a verb to reflect one's craving of something or to reflect one's optimistic thinking. Academic researchers have also defined hope differently. Snyder (1994) does not use hope to mean an emotional state. Rather, he asserts that it is the "sum of willpower and waypower that you have for your goals" (p. 5). He explains that willpower is determination or commitment, while waypower is the mental capacity used to effectively achieve goals. Lazarus (1991), on the other hand, views hope as an emotion. However, his view differs from the one presented here, stating that it is a negative emotion which involves "fearing for the worst but yearning for better" (p. 282).

In this dissertation, hope means a feeling (i.e., a noun) associated with *approach* or *desire* for a particular outcome. Thus, it is *pleasant* in nature. Also, hope does not necessarily have to be associated with optimism: A person may not necessarily be confident or optimistic that an outcome with an approach appraisal will occur. For instance, the outcome of winning the lottery would invoke hope, even though that outcome may not be very probable. Therefore, in contrast with Lazarus's view, in this dissertation, an outcome for which one approaches or feels hope is *not an outcome one is confident they will avoid*. For example, although a person may say, "I 'hope' I do not have diabetes," 'hoping' that one will not be diagnosed with a disease, or being optimistic about *avoiding* a negative outcome, would *not* invoke a *pleasant* feeling.

Finally, while the words "hope" and "fear" will be used to identify the emotions felt preceding an expected event or outcome, it is proposed here, in line with Ortony et al.'s (1988) view, that this is not a theory about emotion *words* but emotion *types*. Emotion types refer to a distinct kind of emotion that have a variety of words that are related in that these emotions are elicited by similar conditions (Ortony et al. 1988). Ortony et al. explain that, "Our goal is not to *define* emotion words such as 'fear' but to specify, in as language-neutral a manner as possible, the characteristics of distinct emotions" (p. 9). One example of why this view is justified is that simply because an emotion word does not exist in a particular language does not mean that the emotion type does not exist. Furthermore, some emotional words within the same emotion *type* refer to different levels of intensity. Thus, several different words can be used to describe the emotion type hope, such as *anticipation*, *anticipatory excitement*, *excitement*, *expectancy*,

*hope, hopeful, and looking forward to*, while several words can be used to describe the emotion type fear, such as *apprehensive, anxious, cowering, dread, fear, fright, nervous, petrified, scared, terrified, timid, and worried*.

### ***Hopeful, Fearful, and Ambivalent Suspense***

Before proceeding to the three moderating variables, a discussion of the different types of suspense would be logical since they are directly related to anticipatory emotions and their appraisals. While there has been disagreement over whether suspense is a positive feeling, a negative feeling, or includes both positive and negative feelings, as the definition of suspense suggests, any of these three situations are possible. These three different situations will be termed *hopeful suspense, fearful suspense, and ambivalent suspense*.

First, a suspenseful experience can be a situation in which hope is the primary emotion felt, which is labeled as *hopeful suspense*. An avoidance appraisal and its related emotion of fear would not be in operation in this situation. Thus, in situations of hopeful suspense, of the two possible outcomes, one outcome (Outcome A) is viewed as something one wants to approach while the opposing outcome (Outcome B) would *not* be viewed as something one wishes to avoid. For instance, the experience of having one's lottery numbers called out would likely be an experience of hopeful suspense because winning the lottery (Outcome A) would be viewed as something a person would want or desire and would cause emotional pleasure, resulting in hope. The alternative outcome of not winning (Outcome B) would not be an outcome one wishes to avoid because, in that

outcome, one simply loses a few dollars they invested in the lottery tickets. In other words, not winning the lottery is not an outcome that is expected to cause emotional pain.

Alternatively, suspense can be a situation in which fear is the primary emotion felt, which is labeled as *fearful suspense*. An approach appraisal and its related emotion of hope would not be in operation in this situation. Thus, in situations of fearful suspense, of the two possible outcomes, one outcome (Outcome B) is viewed as something one wants to avoid while the opposing outcome (Outcome A) is *not* viewed as something one wishes to approach. For instance, the experience of waiting for the termite inspector to finish inspecting one's home would likely be an experience of fearful suspense because discovering that one has termites (Outcome B) would be an outcome one would want to avoid and would cause emotional pain, resulting in fear. The alternative outcome of not having termites (Outcome A) would not be something one wishes to approach because not having termites is not an outcome that is expected to cause emotional pleasure.

The most interesting situation, however, is *ambivalent suspense*, situations in which *both* fear and hope are felt. In situations of ambivalent suspense, of the two possible outcomes, one outcome (Outcome A) is viewed as something one wants to approach while the opposing outcome (Outcome B) is viewed as something one wants to avoid. For example, suppose a couple is relocating and must find a home over a three-day weekend. If they do not find a home (Outcome B), they will have to temporarily live in an apartment, as well as move most of their belongings to a storage facility. They really want to avoid that hassle. After three days of intense searching, the couple finally finds a home—their absolute dream home! If the couple must wait to find out if the buyers will

accept their offer, they will be in a state of ambivalent suspense. One outcome, an acceptance of the offer, means they get to live in the home of their dreams, an outcome that is expected to cause emotional pleasure. Thus, the resulting emotion when considering this outcome is hope. On the other hand, a rejection of the offer means they will have to go through the hassle of moving to a temporary apartment, an outcome that will cause emotional pain. Thus, the resulting emotion when considering this outcome is fear.

Ambivalence is defined by *Merriam-Webster Dictionary* as “simultaneous and contradictory attitudes or feelings (as attraction and repulsion) toward an object, person, or action” and as “continual fluctuation (as between one thing and its opposite).” Several classic psychological theories are consistent with this notion of ambivalence. These theories have been classified as conflict, tension, or inconsistency theories (Markus and Zajonc 1985). The earliest theories, Heider’s (1958) balance theory and Festinger’s (1957) dissonance theory, explain situations in which cognitive elements are inconsistent (Markus and Zajonc 1985). These inconsistencies are believed to cause imbalance and tension, which call for resolution. Additionally, Miller’s (1959) and Berlyne’s (1960) conceptualizations of conflict and Brown and Ferber’s (1951) theory of frustration all consider conflict as a state in which at least two action tendencies are in opposition, or are inconsistent. Furthermore, recent advances in attitude theory, which have traditionally conceived attitude as a bipolar (positive/negative) evaluation toward an attitude object, have taken into consideration the notion that people can feel ambivalent, both positive and negative, toward the same attitude object (Priester and Petty 1996; Thompson,

Zanna, and Griffin 1995). Thus, ambivalent suspense can be described as a state in which two action tendencies are in opposition or conflict—a situation in which one wishes to both approach and avoid a resolution since a pleasurable outcome or a painful outcome may occur.

Furthermore, this notion of ambivalence could also be tied to the *amount of importance* of the outcome. The importance of an outcome can be considered as the sum of the degree of an approach appraisal and the degree of an avoidance appraisal. This is consistent with Ortony et al. (1988), who stated, “The overall subjective importance or salience of the event can probably best be thought of in terms of the sum of the (unsigned) values of desirability and undesirability because these values represent the totality of the processed consequences of the event” (p. 51). The notion that the outcome must be seen as something that is important was identified as a factor impacting suspense in Chapter II. Regarding ambivalence, if one outcome is something one wants to approach, and the other outcome is something one wishes to avoid, the outcome event or resolution will be seen as more important. This is because in these situations there is more at stake. Consider the house-hunting example. By itself, whether or not the couple finds a house before the end of the three-day weekend is considered important. Also, by itself, whether or not the couple acquires their dream home is also important. However, when these outcomes are considered together, the resolution of whether the couple wins the bid will be considered the even more important or meaningful because there is more at stake.



One last issue should be addressed. Many of these theories associated with ambivalence attempt to explain behavior. For instance, Berlyne (1960) measured people's reaction time to a stimulus to indicate conflict (with longer reaction times indicating greater conflict). Similarly, Miller (1959) found that when a rat was presented with a stimulus that was simultaneously rewarding (i.e., food) and punishing (i.e., shock), the rat vacillated, intermittently moving toward the food, then away from the food. Thus, conflict has been shown to relate to *indecision* in a choice situation. However, what is of interest here is not choice behavior. This is because in situations of suspense, the person is not in the position to make a choice among outcomes because the person is not in control of the resolution. Rather than choice behavior, what is of interest is emotional intensity or arousal associated with being in a situation in which one is faced with two opposing outcomes, yet the person is not in control. It is argued that these situations of ambivalent suspense are more emotionally arousing than are situations of hopeful or fearful suspense. A deeper understanding of this issue will be provided shortly in the discussion on probability change.

#### **Moderators of the Relationship between Appraisals and Suspense**

Three variables are thought to impact the degree of the relationships between approach appraisal and hope and between avoidance appraisal and fear: the frequency of the subjective probability change, the degree of subjective probability change, and anticipation time. The first two variables will be discussed together.

### ***Subjective Probability Change: Frequency and Degree***

Subjective probability change is expected to indirectly impact suspense. As mentioned, suspense occurs when one is uncertain. Thus, the subjective probability that a particular outcome will occur can range between 0% and 100%. It is argued here that when one perceives that the probability of the outcome is changing, s/he will experience more suspense, or hope and/or fear, than if the probability were constant. Specifically, the *frequency* to which the subjective probability changes and the *degree* to which it changes are proposed to influence suspense. The *frequency of probability change* is defined as *the perceived frequency of change in the probability of Outcome A during the anticipation period*, and *degree of probability change* is defined as *the perceived amount of change (on average) in the probability of Outcome A during the anticipation period*.

Alternatively, both of these variables this could also be expressed as the frequency and/or degree of change in the likelihood of Outcome B because Outcome A and Outcome B are mutually exclusive outcomes.

Two suspense researchers have explicitly suggested this notion of probability change (Carroll 1984; Carroll 1996; Sternberg 1978). For instance, Sternberg (1978) has explicitly mentioned the notion of changing probability. Specifically, he stated that “a seesaw shift of probabilities” (p. 87) ensures readers will remain in suspense. Further, Carroll (1984) stated that probabilities must be re-emphasized if suspense is to remain firm. He has suggested, as has White (1939), that cross-cutting between the hero’s close escape and the villain’s near capture of the hero is a technique an editor can use to keep the audience in suspense. Although he does not expressly mention this, that particular

technique would actually cause the subjective probability to change. Others have also implied this, as well. For example, Chatman (1978) discussed that “kernels” are turning points in the narrative, which suggests a change in the probabilities. Ohler and Nieding (1996) have also mentioned that suspense is induced due to “turns” in the story. Similarly, Mabley (1972) has noted that dramatic construction (but not suspense, specifically) entails that the protagonist is moving toward and away from his/her goal, stating that, “The next scene will be another development in the encompassing story, and will again *alter* the position of the protagonist in relation to his objective” (p. 22, emphasis added). All of these conceptualizations, then, suggest that the frequency of a change in probability and the degree of change in probability influence suspense.

Two empirical studies also provide some evidence to suggest that suspenseful experiences are due to the frequency in probability change, although neither of these studies explicitly identified this as an antecedent. First, Gerrig and Bernardo (1994) have suggested that one method to create suspense is to “prune the readers’ perceptions of paths toward solution” (p. 471). Specifically, participants read manipulated James Bond scenes, in which Bond was in danger. In one of their manipulations, a fountain pen belonging to Bond was mentioned, then later found and snatched by the villain. The authors described this manipulation as such: “All we have done is manipulated the readers’ perceptions of the immediate existence of an escape route by *providing a possible solution and then pulling it back*” (p. 462, emphasis added). Thus, the manipulation could be interpreted as an increase in the probability that Bond will escape, followed by a decrease in this probability, assuming readers believed Bond’s fountain

pen was a technological gadget with some extraordinary capability. Results showed that participants reported more suspense in the condition in which the pen was mentioned then removed as compared to those in which the fountain pen was not mentioned (i.e., no change in probability) and in which it was mentioned but not removed (i.e., an increase in probability, but no decrease). These results suggest, then, that the frequency with which the probabilities change influences suspense.

A second study that provides indirect evidence of frequency of probability change as a variable that increases suspense is Alwitt's (2002) study of suspense in television commercials. Hope and fear were measured by having participants move a dial to the right when they were feeling hopeful and to the left when they were feeling fearful. Participants reported that the more suspenseful ads were those in which shifts in hope and fear emotions were frequent. Although Alwitt does not suggest this, the changes in these emotions were likely due to the frequent changes in the subjective probability. If one outcome in the commercial was evaluated as something the commercial's protagonist wanted to approach and the other outcome was evaluated as something the commercial's protagonist wanted to avoid (i.e., ambivalent suspense), then probabilities that changed frequently would likely cause frequent shift between hope and fear: one moment the perceived probability may suggest an approach outcome will occur, causing hope, and the next moment the perceived probability may suggest an avoidance outcome will occur, causing fear.

Additionally, Alwitt's study provides indirect support that the *degree* of probability change will positively influence suspense. In her study, participants reported

that the more suspenseful ads were those that produced *large* shifts in the hope and fear emotions. Again, these large shifts in hope and fear were likely due to a large shift in the probability of the outcome. More specifically, a high subjective probability at a particular point in time is expected to increase anticipatory emotion at that point in time (Ortony et al. 1988; Tallis and Eysenck 1994). The higher the subjective probability that an outcome one wants to approach will occur, then the more intense the emotion of hope. Alternately, the higher the subjective probability that an outcome one wants to avoid will occur, then the more intense the emotion of fear. Thus, large perceived shifts in the probability should cause large shifts in hope and fear. Because Alwitt found that larger shifts in the hope and fear emotions caused the commercials to be evaluated as more suspenseful, large shifts in the probability of the outcome should also increase the perception that the experience was suspenseful.

Recent work on evaluations of hedonic experiences also provides some support for the degree of probability change. These studies have found that the rate of change of physical pain and emotional pleasure had a large impact on people's retrospective evaluations of these experiences. First, Ariely (1998) studied painful experiences. In one study, participants' forearms were exposed to a heating element, and in a second study, their fingers were placed in a vise. Results showed that when the intensity of pain varied over time, retrospective evaluations were reported as more painful compared to the conditions in which the intensity of the pain was constant (Ariely 1998). Specifically, he found that the rate of change in the pain intensity explained the most variance in evaluations of pain. While this research focused on physical reactions to stimuli, a second

study found similar results in the context of emotional reactions. In their study of positively toned commercials, Baumgartner, Sujan, and Padgett (1997) found that respondents preferred commercials in which positive emotions sharply increased, providing support for the rate of change in the emotion as well. These results then would suggest that the degree to which the probability changes, thus changing the intensity of hope and fear throughout the experience, impacts retrospective evaluations of hope and fear (and, thus, suspense).

How does a varying probability impact suspense, or hope and fear? First, a change in probability is assumed to refocus a person's attention on the upcoming event (Carroll 1984; Carroll 1996). During the anticipation period, a person's attention may shift to other concerns due to environmental stimuli or due to coping processes. A change in probability, then, is expected to redirect a person attention to the outcome, which will, thus, lead to further cognitive appraisals and emotional reactions related to the outcome. Thus, frequency of probability change will not affect suspense (hope and/or fear) *unless* the outcome is perceived as important (a high approach or avoidance appraisal), suggesting a moderating effect. For instance, suppose a person asks a technician to repair a problem computer (and decides to watch the technician attempt to repair the computer). If the probability that the computer can be repaired changes often, this frequently changing probability is not expected to affect that person's amount of fear if the computer belongs to his/her supervisor. *However*, if the computer belongs to that person, such a changing probability will cause more fear. Thus, the changing probability should affect fear only if the person must *cares* about the computer.

Second, a change in probability assures that a person will not come to believe a particular outcome is certain. Certainty about a future event would squelch a person's anticipatory emotions—emotions felt when one is uncertain. More specifically, a person may become certain of a future outcome if, throughout the experience, the probability that a particular outcome will occur continually increases to a very high level. Although a person may feel intense hope or fear because the probability of occurrence is high, a person might eventually presume *certainty* and, thus, no longer feel anticipatory emotion; rather, their emotion will transform into a resolution emotion, such as relief or satisfaction. This would explain people's behavior at a basketball game in which one team has a large margin over the other: People begin to leave before the game is over because they presume a particular team will win. Therefore, in order to keep a person in a state of uncertainty, and thus a state of anticipatory emotion, the probability must vary.

Based on this discussion, the following is proposed:

P3: *Frequency of probability change* moderates the relationship between the *approach appraisal of an outcome* and *hope*. The stronger the *frequency of probability change*, the greater will be the relationship between the *approach appraisal of an outcome* and *hope* (*positive anticipatory emotion*).

P4: *Frequency of probability change* moderates the relationship between the *avoidance appraisal of an outcome* and *fear*. The stronger the *frequency of probability change*, the greater will be the relationship between the *avoidance appraisal of an outcome* and *fear* (*negative anticipatory emotion*).

P5: *Degree of probability change* moderates the relationship between the *approach appraisal of an outcome* and *hope*. The stronger the *degree of probability change*, the greater will be the relationship between the *approach appraisal of an outcome* and *hope* (*positive anticipatory emotion*).

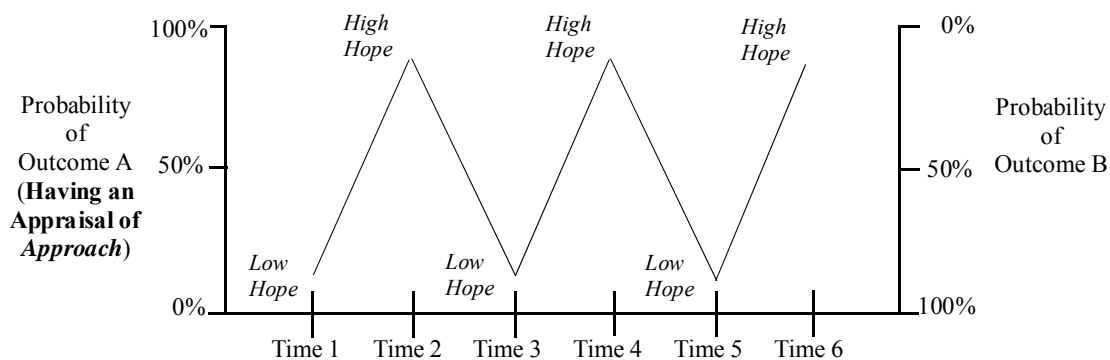
P6: *Degree of probability change* moderates the relationship between the *avoidance appraisal of an outcome* and *fear*. The stronger the *degree of probability change*, the greater will be the relationship between the *avoidance appraisal of an outcome* and *fear* (*negative anticipatory emotion*).

*Probability change and ambivalent suspense.* It should be noted here the unique situation of ambivalent suspense. In ambivalent suspense situations, large swings in the probability are expected to produce a more suspenseful experience as compared to situations of hopeful or fearful suspense. As seen in Figure 3.2, in the case of hopeful suspense, Outcome A would be an outcome that a person wants to approach. Thus, if the probability of Outcome A (as seen on the left side of the figure) changes from approximately 10% to 90% to 10% to 90%, etc., the emotion a person would feel at each point in time would be low hope, high hope, low hope, high hope, etc. Alternatively, in the case of fearful suspense, Outcome B would be an outcome that a person wants to avoid. (Notice also that this probability, shown on the right side of the figure, is the inverse of Outcome A.) Thus, if the probability of Outcome B changes from 90% to 10% to 90% to 10%, etc., the emotion a person would feel at each point in time would be high fear, low fear, high fear, low fear, etc. However, in ambivalent suspense, both outcomes are meaningful, with one being an outcome a person wants to approach and the other being one a person wants to avoid. Thus, for the same pattern of probability, as shown in Figure 3.2, in situations of ambivalent suspense, a person would likely view the experience as 90% probability of Outcome B occurring, then a 90% probability of Outcome A occurring, followed by a 90% probability of Outcome B occurring, etc. Thus, this same probability pattern would result in feelings of high fear, high hope, high fear, etc. for experiences of ambivalent suspense.

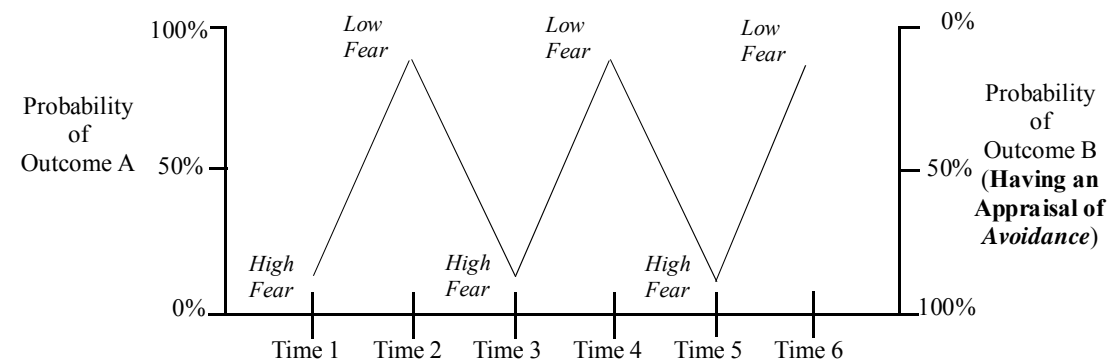


**FIGURE 3.2**  
**Probability Change and**  
**Hopeful, Fearful, and Ambivalent Suspense**

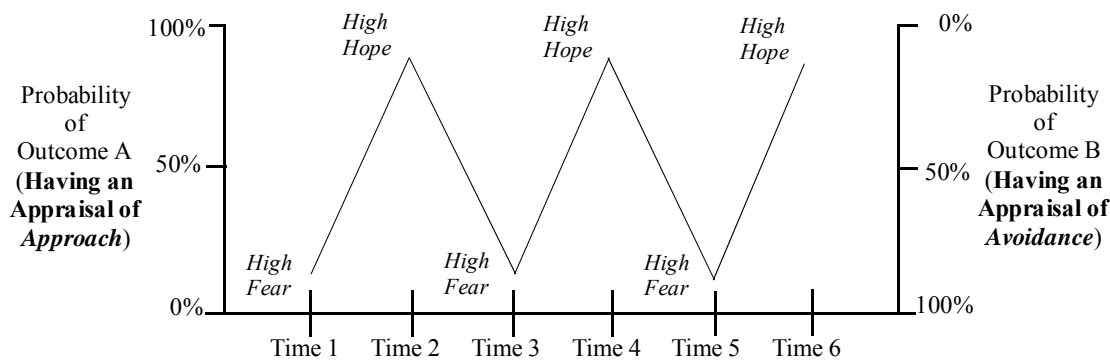
**Hopeful Suspense**



**Fearful Suspense**



**Ambivalent Suspense**



Thus, an experience of ambivalent suspense with frequent and large swings in subjective probability would keep a person in a continual state of high anticipatory emotion, as well as ensuring uncertainty. Additionally, *these large probability swings would also stimulate both the approach and avoidance affect systems*, which may be more arousing than if only one affect system were stimulated. This idea is consistent with that of Cacioppo and colleagues (Cacioppo and Bernston 1994; Cacioppo et al. 1999; Larsen et al. 2001). They have noted that an emotional experience may be one of *coactivation*, which they claim is a “novel activation response” in which both affect systems are aroused.

Some suspense researchers have suggested that alternating states of hope and fear lead to suspense (Alwitt 2002; Sternberg 1978), as was reviewed in Chapter II. For instance, a major theme of Sternberg’s book, *Expositional Modes and Temporal Ordering in Fiction*, is the shift of hope and fear. This resonates in his definition, in which he stated that suspense is “. . . sustained by the clash of intermittently aroused hopes and fears . . . about the outcome of the future confrontation” (1978, p. 65). Alwitt (2002) tested this notion in her study of suspense in television commercials, and found that participants thought the most suspenseful commercials were those that produced frequent and varying shifts in hope and fear. However, these authors seem to assume that suspense *only* occurs in situations in which both hope and fear are aroused. While feelings of both hope and fear produce the most suspenseful experiences, as has been argued, either hope or fear can be associated with suspenseful situations (i.e., hopeful and fearful suspense). There are two possible reasons for why Sternberg and Alwitt assumed

both hope and fear are necessary. First, authors of novels and writers and directors of film want to generate highly emotional experiences in their audiences. Because experiences of ambivalent suspense are the most emotionally arousing, this type of suspense is the type that is employed most often in narratives and entertainment. Second, authors, writers, and directors are *able* to create experiences of ambivalent suspense because they have total control over the novel or script. Thus, films and novels most often use ambivalent suspense. However, in real life, ample opportunities exist for experiences of hopeful *or* fearful suspense. In fact, experiences of ambivalent suspense are probably the most rare.

*Clarifying the role of probability/uncertainty.* As the above states, a few researchers have specifically suggested that changing probabilities produce suspense, and many others have implicitly tested or suggested the frequency and/or degree of probability change as variables that increase suspense. However, this observation of a varying probability is not well incorporated into theories of suspense. Rather, suspense researchers have been perplexed by the role that probability/uncertainty plays in creating suspense. As mentioned in Chapter II, some researchers have argued that a high *probability* or *likelihood* (often of a negative outcome) creates the most suspense (Brewer 1996; Bryant et al. 1994; Carroll 1984; Carroll 1996; Comisky and Bryant 1982; de Wied 1994; Hoffner and Cantor 1991; Zillmann 1996). Other researchers argued that high *uncertainty*, or a 50/50 probability of Outcome A or Outcome B occurring, creates the most suspense (Ohler and Nieding 1996).

Researchers in stress and emotion have had similar difficulties in ascertaining the role of probability/uncertainty. Likelihood has been suggested to increase hope and fear (Ortony et al. 1988) and worry (Tallis and Eysenck 1994). Yet, others have suggested that it is uncertainty that impacts anticipatory emotions. Berlyne (1960) argued that uncertainty increases arousal, and because arousal is assumed to increase the intensity of an emotion (Ortony et al. 1988; Russell 1980; Watson and Tellegen 1985), his argument implies that uncertainty is positively related to hope and fear. Monat et al. (1972, p. 238.) provide a nice summary of this conundrum:

What is the effect of event uncertainty on the *degree* (amount) of stress experienced? It might be expected, on the one hand, that degree of stress would be proportional to the probability of harm. If there is little likelihood of harm, one may simply forget about it and relax; but under conditions where the likelihood of harm is high, a premium might be placed on active psychological efforts to prepare oneself for the harm. On the other hand, event uncertainty itself may increase anxiety and thus add to the disturbance (e.g., Berlyne, 1960). This leads to the prediction of a curvilinear relationship between arousal and expectancy with maximum event uncertainty (50% probability) leading to greater levels of anticipatory arousal than smaller levels of uncertainty, even when [electric] shock is more probable.

Empirical findings do not provide much clarification. These studies all investigated fear and/or stress reactions to a possible electric shock. The participants were told a particular probability of shock before the anticipation period began. They also had some indication of when the shock was expected to occur. Epstein and Roupelian (1970) found that a very low probability (5%) had the highest physiological responses compared to conditions in which the probability was higher (50 or 95%). However, both Niemela (1969) and Breznitz (1984) found that heart rate increased as the probability increased.

Finally, Monat et al. (1972) did not find differences in physiological responses for 5%, 50%, and 100% conditions.

These conflicting findings have led to conclusions that probability plays little or no role in the experience of anticipatory emotions. After reviewing the literature on probability and stress, Loewenstein et al. (2001) concluded that probability works in an all-or-nothing fashion, in which once a probability passes the threshold of zero, the future event becomes a source of worry and that further increases in probability have little effect on emotion. Thus, they asserted that *possibility* rather than *probability* impacts stress. They suggested, instead, that the perceived consequences of the outcome interact with a person's subjective probability: People who view a future outcome as very positive (or negative) are likely to overweight the probability that the positive (or negative) outcome will occur. Similarly, in a reaction to the same group of studies, Breznitz (1984) also concluded that probability might play a small role in increasing fear. He asserted that the proximity of the outcome might override any probability judgments: "It is conceivable that such monopolizing of a person's attention due to continuous cues of imminence wash out any variance normally under the control of probability" (p. 64).

*However*, these conclusions that probability plays little role in anticipatory emotions are based on research that has studied only *prior probabilities*. A prior probability is viewed here as the predicted probability of the outcome that is considered *before* a person's experience begins. This prior probability information may be based on one's past experience or based on information from an external source, such as the probabilities provided by experimenters in the electric shock studies. However, it is

argued here that when considering how probability affects anticipatory emotions and suspense, *it is best to consider the current probability, or the probability experienced as a situation unfolds, rather than the prior probability*. Consider the following example. If a person knew that American Airlines cancels 5% of their flights (a prior probability), this information would likely have little affect on that person's level of fear of his/her flight being cancelled (assuming it is an important flight). Rather, cues from the *current* environmental situation are likely to suggest the current probability and thus cause fear. These environmental cues could include the approaching blizzard, the number of delays and cancellations of other flights, whether the plane has arrived at the gate, or an increasing number of mechanics driving up to the plane and tinkering with one of the engines. Each of these cues could increase a person's subjective probability that the flight would be cancelled and, thus, increase that person's current level of fear. The information that only 5% of all American Airline's flights are cancellations will likely provide little comfort for this person.

Gerrig (1997), a suspense researcher, also implied that the current probability rather than the prior probability is important. In his discussion of anomalous suspense (suspense that is re-experienced as one reads or watches a narrative a second time), he stated that viewers are most influenced the "moment-by-moment experience of the narrative" (p. 171). He notes that when people view of a film for a second time, and thus know the probability of the protagonist's fate, they still experience some suspense because they concentrate on the current experience rather than what they already know.

A possible explanation of the previous confusion surrounding the role of probability/uncertainty was that researchers had not considered how probability operated over time. Thus, the concept of uncertainty may not have been thoroughly understood. It is argued here that a person could recall a situation as having high uncertainty, yet not be at maximal uncertainty (i.e., 50%) at any point in time. A maximal level of *current* uncertainty would mean a person perceives, at a particular point in time, that the probability of whether an event will occur is 50%. However, a retrospective view of uncertainty at 50% does not necessarily mean that a person was at a state of 50% uncertainty *throughout* the experience. Rather, *a person could recall an experience as having 50% uncertainty, yet the person could be explaining a situation as presented in Figure 3.2, in which the probability varied greatly and in which, at no point in time, the probability was 50%.* A person who experienced a situation in which their subjective probability was 10%, 90%, 10%, and then 90% could mentally average these probabilities and, thus, interpret that experience was highly uncertain (overall 50% probability). For instance, a person who experienced a suspenseful basketball game, in which the lead went back and forth the entire game, may explain the game as being highly uncertain. This is despite the fact that each team had a 10-point lead at certain times, suggesting this person was not at maximal uncertainty (50% probability) throughout the game.

### ***Anticipation Time***

Another variable that is proposed to moderate the relationships of approach appraisal on hope and avoidance appraisal on fear is *anticipation time*, which is defined

as *the total time of the anticipation period, which begins with the initiating event and ends with the resolution* (i.e., outcome event). Specifically, anticipation time is believed to have a moderating effect on the relationships between the approach/avoidance appraisals and hope/fear in the form of an inverted-U. The rationale behind this effect is that time is needed to assimilate the meaning and impact of the outcome that was signaled by the initiating event. However, more time will give a person the opportunity to use coping responses to reappraise the outcome, producing less hope and/or fear (Folkins 1970), or become bored (as in watching a film) (de Wied 1991). Further, other elements in the environment could detract a person's attention from the upcoming outcome. Thus, a bride who is told that the baker has a flat tire and may not deliver the wedding cake on time may become more fearful as the news sinks in. Yet, she may become less worried with time as she realizes that the cake is only a small element of the wedding day and as other events detract her attention from the cake.

Both suspense and stress researchers have proposed and found this effect (de Wied 1991; Folkins 1970). For example, in comparing different anticipation periods of manipulated suspenseful film clips (19, 113, 148, 181, 238, and 344 seconds), de Wied (1991) found a statistically significant quadratic trend, with the 19 and 344 second scenes producing less suspense than the scenes of moderate length. Folkins (1970) also found evidence of this effect on his study of anticipation time on stress, which was induced by the possibility of an electric shock. He found that an anticipation time of 1 minute produced more stress (measured via heart rate) than a shorter anticipation time of 30



seconds and longer anticipation times of 3, 5, and 20 minutes. Thus, the following is proposed:

P7: *Anticipation time moderates the relationship between the approach appraisal of the outcome and hope in the form of an inverted-U. An anticipation period of moderate length will impact the relationship between the approach appraisal of an outcome and hope more strongly than a short or a long anticipation period.*

P8: *Anticipation time moderates the relationship between the avoidance appraisal of the outcome and fear in the form of an inverted-U. An anticipation period of moderate length will impact the relationship between the avoidance appraisal of an outcome and fear more strongly than a short or a long anticipation period.*

While this inverted-U hypothesis is proposed, it should be noted that other suspense and stress researchers have proposed a positive linear relationship between anticipation time and suspense (or stress/fear) (Brewer and Lichtenstein 1982; Breznitz 1967; Kassler 1996; Nomikos et al. 1968). Several suspense researchers proposing a positive linear effect of anticipation time have noted that suspense gradually *builds up* during the anticipation period (Brewer 1996; Brewer and Lichtenstein 1982; Kreitler and Kreitler 1972). Further, several have found evidence of this effect. However, this positive relationship may have been due to either an unrealistic experimental situation or the confounding variables of frequency and degree of probability change.

One study that found a positive linear effect of anticipation time, but which may have been due to an unnatural circumstances, is Breznitz's (1967) shock study. Participants were told that they would be shocked at the end of a 3-, 6-, or 12- minute period. His results showed that there was a statistically significant difference in the heart rate and skin conductance between the three groups, with the 12-minute group having significantly (statistically) higher scores compared to the 6- and 3-minute groups.

Breznitz called this effect the “incubation of threat.” Yet, Folkins (1970) pointed out that the positive linear effect of anticipation time may be due to this study’s “crippling response restrictions” (p. 173): participants were required to count down the minutes. This unnatural procedure may have contributed to the positive linear effect because participants may have been less likely to use coping responses to deal with the shock threat.

Additionally, the positive linear effect found in two studies (Kassler 1996; Nomikos et al. 1968) may be due to confounding variables: the frequency and/or degree of probability change during the longer anticipation period. In Nomikos et al.’s (1968) study, participants’ reactions to filmed milling accidents showed a gradual increase in physiological stress during the anticipation period, the period before the saw’s blade made contact with the victim. Further, they found that those watching the long scenes had statistically higher physiological reactions than those watching short scenes, which lead them to conclude that, “long anticipation is more disturbing than short anticipation” (p. 207). However, it is important to note that the change in the subjective probability was likely playing a role as well. This is because as the scene’s time increased, the subjective probability increased because the saw’s blade was continually moving closer to the victim’s body. Thus, a frequently changing (increasing) probability, rather than the anticipation time, was more likely the variable that was causing the variance in the physiological reactions. Kassler (1996) also found that anticipation time was positively related to suspense in a study in which respondents watched suspense scenes of different films (e.g., *Cape Fear* and *Hand That Rocks the Cradle*). However, because the

frequency and degree of probability change variables were not controlled in this non-experimental design, these factors likely contributed to the participants felt suspense: The longer scenes likely had more frequent and drastic changes in the probability than the shorter scenes.

Thus, anticipation time is believed to have an inverted-U moderating effect. However, the above studies suggest that anticipation time work in an indirect fashion as well. This is because a longer anticipation time provides more opportunity for the probability to change.

In addition to the above studies, recent research in retrospective evaluations of experiences also provides support for anticipation times' more indirect effect. While, initially, researchers studying retrospective evaluations of experience found that the experience duration had no impact on the evaluation of the experience (Fredrickson and Kahneman 1993; Kahneman, Fredrickson, Schreiber, and Redelmeier 1993), an effect labeled "duration neglect," more recent studies have suggested that when hedonic responses fluctuate rather than remain constant, duration does play a role. This was found in the experiences of both pain (Ariely 1998) and positive emotional reactions to commercials (Baumgartner et al. 1997). For instance, Baumgartner et al. concluded that, "longer advertisements can lead to higher ad judgments provided they are successful in continuously building up emotion over the length of the advertisement" (pp. 229-230). Thus, anticipation time may be affecting suspense indirectly by allowing the probability to vary more often.

### ***Delay and Its Relationship to Anticipation Time and Probability Change***

A notion that is commonly associated with suspenseful experiences is delay. The word suspend, from which suspense is derived, suggests that an outcome has been delayed. At first inspection, one may assume a delay of the outcome should increase the anticipation time. For instance, an overtime basketball game, which was expected to end at the second half, has been delayed and, thus, increases the anticipation time. The delay should increase the suspense of the game.

However, Carroll (1984) has argued that a delay is actually part of the manipulation of probabilities. He has suggested that when a delay occurs, it *increases* the probability that a negative outcome will occur. For instance, if a person's flight is delayed, this delay will increase the likelihood that the person will miss his/her connecting flight, in addition to increasing the anticipation time.

The word delay, however, is somewhat ambiguous since it has several meanings. First, some delays could *only* increase the anticipation time. For example, the overtime game would be an example in which the anticipation time was increased. In contrast to what Carroll suggested, this delay would not increase or decrease a team's probability of winning. The clock running out at the second half, and thus increasing the anticipation time due to an overtime game, is independent of a change in probability, or of one of the teams scoring. This type of delay is somewhat similar to what Hui, Thakor, and Gill (1998) called procedural waiting in their study of consumer's reactions to waiting. Procedural delays increase customer's wait time, such as waiting in line, but do not signal the noncompletion of a service transaction. Second, a delay could also suggest an

*initiating event*. For instance, a person arriving at the airport and seeing that his/her flight has been delayed may elicit the question, “Will I make my connecting flight?” Finally, in some cases, a delay may both increase the anticipation time and signal a change in the probability. For instance, the referee calling a foul would do two things. First, it will stop the clock, increasing the anticipation time, and, second, it will allow the other team the opportunity to shoot or have possession of the ball, which will likely be seen as a change in probability. Likewise, if the person at the airport found out that his/her flight was again delayed, this second delay would increase the anticipation time and increase the probability that he/she would not make the connecting flight. These last two types of delays both suggest the probability that an outcome one wishes to avoid has increased, and they are similar to what Hui et al. (1998) label a correctional delay. These types of delays are regarded as a type of delay that threatens the very purpose of the service encounter. Therefore, it is suggested that the term delay not be used to explain experiences of suspense because the term is not precise and may confound the two variables of anticipation time and probability change or may suggest an initiating event.

### **Consequences of Suspense**

Suspense researchers, in general, have concluded that the more suspenseful a novel or movie, the more positively one will evaluate that novel or movie. However, it may not always be the case that suspense will elicit favorable evaluations, as will be shown, particularly in many real life situations. In conjunction with how the experience is resolved, suspense affects, either directly or indirectly, *attitude toward anticipation period*, the intensity of the resolution emotions of *satisfaction*, *disappointment*, *relief*, and

*anguish*, and, the *attitude toward the overall experience*. Our attention will now turn to each of these consequences.

### ***Attitude Toward Anticipation Period***

While evaluations of experiences are often thought of as being contingent on the outcome or resolution, it is proposed here that the experience leading up to the outcome is evaluated as well. In other words, when evaluating an experience, *how* an experience unfolds is important, in addition to *what* the final consequences of the experience are. For instance, although a woman's flight may have left in plenty of time for her to catch her connecting flight (i.e., a positive outcome), because the moments leading up to this resolution were fear-filled, she may evaluate the anticipation period unfavorably even though she ultimately made her connecting flight. Alternately, although a person's favorite football team may have lost the game (i.e., a negative outcome), because the game was filled with both hope and fear emotions, and thus very suspenseful or arousing, that person may evaluate the anticipation period positively: It was an exciting game, even though his/her team lost. This notion is similar to what some economists have posed: They have noted that people derive utility in moments leading up to an outcome that are independent of the actual outcome (Caplin and Leahy 2001; Conlisk 1993; Lopes 1987).

It is proposed that hope, fear, and suspense are antecedents of attitude toward the anticipation period. *Attitude toward anticipation period* is defined as *an evaluation of one's experience during the anticipation period, which begins with the initiating event and ends just before the resolution event*. Hope and fear are the anticipatory emotions felt during the anticipation period and, thus, should have an effect on one's evaluation of this

period. Specifically, it is proposed that because hope is a pleasant feeling, it should have a positive effect on attitude toward anticipation period. Alternately, it is proposed that because fear is a negative feeling, it should have a negative effect on attitude toward anticipation period. Thus, this is formally proposed as follows:

P9: The more *hope* felt during the anticipation period, the more positive the *attitude toward anticipation period*.

P10: The more *fear* felt during the anticipation period, the more negative the *attitude toward anticipation period*.

An interesting situation is an experience of ambivalent suspense. In these situations, both hope and fear, with opposite valences, are felt. It could be assumed that in situations in which the degree of hope is equal to the degree of fear, the attitude toward the anticipation period would be neutral. In other words, fear, a negative emotion, would cancel out any felt hope, a positive emotion. Thus, one may assume that in such situations, attitude toward the experience would be neutral. However, suspense, the anticipatory arousal, is proposed to directly affect attitude toward anticipation period. For instance, studies on gambling have found that gambling experiences are perceived as arousing, and that it is this arousal or “rush” that encourages future play (Anderson and Brown 1984; Cotte 1997; Griffiths 1990). Because gambling situations are often those of ambivalent suspense, in which one outcome can be perceived as pleasurable, which is proposed to cause hope, and one outcome can be perceived as painful, which is proposed to cause fear, the gambling experience would be evaluated as neutral if only the anticipatory emotions are considered. Furthermore, several theorists have proposed that arousal itself can be perceived as pleasant, but up to a point at which arousal will be

perceived as unpleasant. Both Berlyne's (1971) theory on arousal and aesthetics and Raju's (1980) and Steenkamp and Baumgartner's (1992) research on optimum stimulation level make this prediction. Thus, suspense, independent of the valence attached to it, may also independently have an effect on the evaluation of the anticipation period. Thus, the following is proposed:

P11: *Suspense* has an effect on *attitude toward anticipation period* in the shape of an inverted-U. The anticipation period will be evaluated more positively when suspense is at moderate levels than when at low or high levels.

Our attention will now turn to the emotions that are a result of the resolution.

### ***The Resolution Appraisals and Resolution Emotions***

The emotions addressed in this dissertation revolve around events. Anticipatory emotions, those emotions associated with a future event, have been discussed. *Resolution emotions*, on the other hand, are those emotions that occur once an uncertain situation has been resolved, and include the emotions of *satisfaction*, *disappointment*, *relief*, and *anguish*. This notion that people have an emotional reaction to an expected event is based on Ortony et al.'s (1988) viewpoint that there exist confirmation and disconfirmation emotions. Similarly, other cognitive appraisal theorists have also asserted that there are a group of emotions associated with the past or present, rather than with the future, as is the case with anticipatory emotions. Roseman et al. (1996) refers to these as reaction emotions, and Bagozzi (1992) refers to these as outcome-desire fulfillment or outcome-desire conflict emotions. Thus, during suspenseful experiences, a person will first be filled with anticipatory emotions, during which they are uncertain about an upcoming consumption or acquisition outcome, and then be filled with resolution emotions, at



which point they will be certain about the outcome that had been expected (assuming that there is a resolution).

Resolution emotions are elicited by how the experience ended—or what happened—as well as what was expected at its conclusion—pleasure or pain. Thus, the type of appraisal of the outcome, in addition to whether this outcome did or did not occur, determines the resolution emotions (Ortony et al. 1988; van Dijk, Zeelenberg, and van der Pligt 1999). The resolution emotions of satisfaction and disappointment are emotional responses to an outcome that had an avoidance appraisal and are elicited when one appraises the resolution. Thus, a *resolution appraisal of an approach outcome* is defined as *the perception of whether the expected outcome one wanted to approach did or did not occur*, and *satisfaction* is defined here as *the positive emotion experienced when an outcome with an approach appraisal (Outcome A) does occur*, while *disappointment* is defined as *the negative emotion experienced when an outcome with an approach appraisal (Outcome A) does not occur*. Thus, in situations in which an outcome was appraised as something one wanted to approach and in which one was feeling hope during the anticipation period, if this outcome occurs, the person will feel satisfied, and if this outcome does not occur, the person will feel disappointed. Thus, the following is proposed:

P12: A *resolution appraisal of an approach outcome (Outcome A)* in which the outcome is perceived to have occurred will cause *satisfaction*.

P13: A *resolution appraisal of an approach outcome (Outcome A)* in which the outcome is perceived to have *not* occurred will cause *disappointment*.

The resolution emotions of anguish and relief, on the other hand, are emotional responses to an outcome that had an avoidance appraisal. Specifically, a *resolution appraisal of an avoidance outcome* is defined as *the perception of whether the expected outcome one wanted to avoid did or did not occur*, and *anguish* is *the negative emotion experienced when an outcome with an avoidance appraisal (Outcome B) does occur*, while *relief* is *the positive emotion experienced when an outcome with an avoidance appraisal (Outcome B) does not occur*. Thus, in situations in which an outcome was appraised as something one wanted to avoid and in which one was feeling fear during the anticipation period, if this outcome occurs, the person will feel anguish, and if this outcome were does not occur, the person will feel relief. Thus, the following is proposed:

P14: A *resolution appraisal of an avoidance outcome (Outcome B)* in which the outcome is perceived to have occurred will cause *anguish*.

P15: A *resolution appraisal of an avoidance outcome (Outcome B)* in which the outcome is perceived to have *not* occurred will cause *relief*.

One important aspect of the two resolution appraisal constructs needs to be made clear. As discussed, the two possible outcomes are assumed to be mutually exclusive. Thus, if the resolution appraisal of an approach outcome (Outcome A) is perceived to have occurred, then the resolution appraisal of an avoidance outcome (Outcome B) can be assumed to have not occurred. Conversely, if the resolution appraisal of an approach outcome (Outcome A) is perceived to have not occurred, then the resolution appraisal of an avoidance outcome (Outcome B) can be assumed to have occurred. Again, although the resolution itself is dichotomous, each of the two outcomes (approach and avoidance) is evaluated.

How does suspense relate to these resolution emotions? Suspense is proposed to amplify these emotions. As mentioned earlier, emotion is thought to be a valenced reaction accompanied by arousal, as suggested by the dimensional emotion researchers (Russell 1980; Watson and Tellegen 1985). This is in line with Ortony et al.'s (1988) claim: They state that physiological arousal is a variable that increases the intensity of all emotions. Thus, the higher one's arousal at the point of resolution, the stronger should be the intensity of his/her resolution emotion(s). For example, if a couple looking for the home is in suspense (or is aroused) when they learn their bid is accepted, this arousal should amplify their satisfaction emotion. Zillmann's (1971; 1991) excitation transfer theory also supports this notion. He proposed that residual excitation (i.e., arousal) that is induced at an earlier point in time by one stimulus or event would affect one's reactions to stimuli or event encountered at a later time. The theory assumes that the excitation decays slowly and that, if a person misattributes their arousal to the second stimuli, their reactions to the second stimuli would be more extreme. The theory has shown support in the psychological literature (Cantor, Bryant, and Zillmann 1974), as well as in the marketing literature (Gorn et al. 2001). For instance, Gorn et al. (2001) found that when participants were first put in an aroused state using music, positively toned ads were evaluated more favorably than when participants were not put in an aroused state. The opposite was true for negatively toned ads: Those participants that were aroused evaluated negatively toned ads less favorably compared to those who were less aroused. Additionally, Groeppel-Klein and Baun (2001) and Mattila and Wirtz (2000) both found that people have more extreme evaluations of service evaluations when their service

environments were arousing, although they did not test excitation transfer theory directly.

Thus, the following are proposed:

P16: *Suspense moderates the relationship between the resolution appraisal of an approach outcome and satisfaction. The more suspense during the anticipation period, the stronger the relationship between the resolution appraisal of an approach outcome and satisfaction.*

P17: *Suspense moderates the relationship between the resolution appraisal of an approach outcome and disappointment. The more suspense during the anticipation period, the stronger the relationship between the resolution appraisal of an approach outcome and disappointment.*

P18: *Suspense moderates the relationship between the resolution appraisal of an avoidance outcome and anguish. The more suspense during the anticipation period, the stronger the relationship between the resolution appraisal of an avoidance outcome and anguish.*

P19: *Suspense moderates the relationship between the resolution appraisal of an avoidance outcome and relief. The more suspense during the anticipation period, the stronger the relationship between the resolution appraisal of an avoidance outcome and relief.*

Suspense was defined as an emotional experience in which the resolution was perceived as dichotomous: “Will Z occur?” However, some resolutions may actually be on a continuum. For instance, suppose a man suspects he has termites (he saw some strange bugs), and suppose he has some vague notion that the damage would cost \$2000. Having termites would confirm his fears: he would be in anguish. Further, if the cost of the damage were \$4000, which is much more than he expected, he would have even stronger negative feelings. The notion that the resolution is on a continuum is consistent with the research in marketing on satisfaction. In Oliver’s (1981) disconfirmation model, a customer is satisfied if the product or service outcome surpasses his/her expectations (positive disconfirmation) and dissatisfied if the outcome falls short of his/her

expectations (negative disconfirmation). The customer is “just satisfied” when there is no difference between the outcome and one’s expectation (simple confirmation). Thus, customer satisfaction has been conceptualized to occur on a continuum, and the level of satisfaction is contingent on whether the outcome was better or worse than expected. In the termite scenario, the person may feel dissatisfied if he must pay much more than he expected for the termite damage.

While many resolutions or outcomes of consumption situations are on a continuum, this dissertation will focus on those resolutions that are dichotomous, or at least perceived as dichotomous. When considering continuous resolutions, many interesting emotional scenarios come into play if the outcomes are conceptualized as possible outcomes that have approach and/or avoidance appraisals. A man who had an avoidance appraisal of an outcome (i.e., felt fear) and who perceived the outcome as not as painful as expected, yet still painful, would feel both relief (positive emotion) and anguish (negative emotion). For instance, if the man found out he had to pay \$1000 for the termite damage rather than the expected \$2000, he would feel relief that he did not have to pay as much as he expected and anguish that he still had to pay \$1000. However, while interesting and relevant, addressing these continuous types of resolutions is beyond the scope of this dissertation. Further, it is believed that resolutions perceived as dichotomous will be perceived as being more suspenseful. As mentioned, suspense researchers have proposed that suspense requires outcomes that are mutually exclusive. This is because a person is likely to feel more tension in these situations in that the two polarized outcomes are “pulling” the person in opposite directions. Based on the

probability that one or the other outcome will occur, a person will believe at one moment Outcome A will occur, while the next moment Outcome B may occur. Resolutions perceived as continuous would not produce this tension. For instance, if one moment the couple buying the home thought they may pay \$200,000, then \$205,000, then \$195,000, this would not produce perceived as suspenseful compared to a situation in which at one moment they believed they would win the bid, then at the next moment they did not believe they would win, etc.

### ***Attitude Toward Overall Experience***

The final consequence of suspense is the *attitude toward the overall experience*, which is defined as *an evaluation of one's overall experience that includes both the anticipation period and the resolution*. The valence and intensity of the emotional reactions felt during both of these phases of the experience are expected to impact one's attitude toward the overall experience. Specifically, it is expected that the resolution emotions and one's attitude toward anticipation period affect one's attitude toward overall experience.

*Effect of resolution emotions.* It seems intuitive to assume that a positive ending to a suspenseful experience should be evaluated more positively than a negative ending. Suspense researchers have found this as well. Two studies have found that a positive ending results in higher enjoyment of the experience: Gan, Tuggle, Mitrook, Coussement, and Zillmann (1997) found this result in the context of sports matches (the favored team won), and Kassler (1996) found this in the context of a narrative (the protagonist escaped harm). Thus, a resolution that induces the positive emotions of satisfaction and/or relief

should increase one's overall evaluation of a suspenseful experience. Alternatively, a negative emotion at the resolution should have a negative affect on one's evaluation of the overall experience. Thus, the following are proposed:

P20: The greater the *satisfaction* felt at the resolution, the more positive the *attitude toward the overall experience*.

P21: The greater the *disappointment* felt at the resolution, the more negative the *attitude toward the overall experience*.

P22: The greater the *anguish* felt at the resolution, the more negative the *attitude toward the overall experience*.

P23: The greater the *relief* felt at the resolution, the more positive the *attitude toward the overall experience*.

An interesting situation is that when one is in a state of *ambivalent suspense*, his/her positive or negative emotional reaction to the resolution should be *more intense* than if he/she were in a state of hopeful or fearful suspense. For instance, consider high stakes gambling, in which a person has an opportunity to win a large sum of money, an outcome with an approach appraisal, and at the same time the possible misfortune of losing a large sum of money, an outcome with an avoidance appraisal. If the person wins the bet, he/she will not only feel satisfaction but will also feel relief. *Thus, the person will feel two positive emotions*. Alternately, if the person loses the bet, he/she will not only feel anguish but will also feel disappointment. *Thus, the person will feel two negative emotions*. This effect is independent of the moderating variables of frequency of probability change, degree of probability change, and anticipation time.

These propositions that the outcome influence the overall evaluation are somewhat similar to the "peak-and-end rule" (Kahneman et al. 1993), which suggests that

the most intense and end moments of an experience are those that most influence the overall evaluation of the experience. Several studies of hedonic experiences support this hypothesis, particularly that the ending moments influence evaluation (Ariely 1998; Ariely and Carmon 2000; Baumgartner et al. 1997; Kahneman et al. 1993). One rationale as to why the end moments of experiences have such a strong impact on their evaluation is that the ending moment of many experiences is attainment or nonattainment of a goal—or the resolution of achieving or avoiding a particular outcome. There is evidence that experiences often end with the satisfying or blocking of a goal (Zacks and Tversky 2001; Zacks, Tversky, and Iyer 2001). Zacks et al. (2001) studied people's perceptions of events, which they define similar to an experience in that events have a beginning and an end. They found that people segment routine events at points in which many physical features are changing. Further, they propose that it is at these moments when goals are satisfied or blocked. Thus, this implies the ending moments of an experience are often those in which a person achieves or avoids (or does not in both cases) an outcome. Because an outcome is often important, an ending moment, at which point the outcome is realized, should have a strong impact on the overall experience.

*Effect of attitude toward anticipation period.* While the outcome of an experience is likely to be an important factor that influences one's attitude of the overall experience, a person's attitude toward the anticipation period may also influence overall attitude. Although a woman's flight may have left in plenty of time for her to catch her connecting flight (i.e., a positive outcome), because the moments leading up to this resolution were fear-filled, she may evaluate the moments leading up to the outcome unfavorably, and



these moments may also influence her overall evaluation. Alternately, although a person's favorite football team may have lost the game (i.e., a negative outcome), because the game was filled with both hope and fear emotions, and thus very suspenseful or arousing, that person may evaluate the anticipation period positively. This positive perception of the anticipation period is likely to have an impact on that person's evaluation of the game experience. Thus, the following is proposed:

P24: The more positive the *attitude toward the anticipation period*, the more positive the *attitude toward the overall experience*.

### Summary

This chapter presented the proposed conceptual model of suspense, along with its antecedents and consequences. The model assumes hope and fear comprise suspense. These are directly influenced by an approach appraisal and an avoidance appraisal of the outcome(s), and those relationships are moderated by the frequency of probability change, the degree of probability change, and anticipation time. Further, the model assumes that the suspenseful experience will be perceived as resolved, at which point the resolution emotions of satisfaction, disappointment, relief, and/or anguish are felt. These emotions, along with one's attitude toward the anticipation period, are proposed to influence one's overall attitude toward the suspenseful experience.

The next two chapters present the methodologies and results of three studies that test a portion of the conceptual model presented in this chapter. Chapter IV presents Phase 1 of the empirical testing—the development of scales that measure hope, fear, and suspense. Two studies achieved this goal. Chapter V presents Phase 2 of the empirical testing, which focused on the relationships among select constructs. Specifically, a

scenario-based experiment tested (1) the proposed conceptualization of suspense—that *hope* and *fear* are components of *suspense*—and (2) effect of select antecedents leading to suspense, *approach appraisal*, *avoidance appraisal*, and *frequency of probability change*.

## CHAPTER IV

### PHASE 1 METHODOLOGY AND RESULTS:

#### SCALE DEVELOPMENT OF HOPE, FEAR, AND SUSPENSE

The purpose of Phase 1 was to develop scales to measure hope, fear, and suspense. Developing scales for these constructs that produce reliable scores is an important first step in testing the proposed model because the reliability of scores is a necessary, although not sufficient, condition for validity (Anderson and Gerbing 1988; Churchill 1979). While scales of fear exist (e.g., Izard 1977; Richins 1997), scales of hope (as defined here) and suspense do not. Developing measures of hope as an emotion may have been impeded by their difficulty to measure via self-report, in addition to the neglect of positive emotions in the psychological literature (Lopez and Snyder 2003). Current scales for hope have focused on hope as either a cognitive state (such as optimism in the face of failure) (Erikson, Post, and Paige 1975; Staats 1987; Staats 1989) or as an individual difference (Snyder, Harris, Anderson, Holleran, Irving, Sigmon, Yoshinobu, Gibb, Langelle, and Harney 1991; Snyder, Hoza, Pelham, Rapoff, Ware, Danovsky, Highberger, Rubinstein, and Stahl 1997), not as a positive anticipatory emotion. Measures of suspense have been either one-item measures (e.g., Alwitt 2002; Brewer and Lichtenstein 1981; Comisky and Bryant 1982) or measures of physiological response(s) (e.g., Hoffner and Cantor 1991; Zillmann et al. 1975).

It is imperative that scales yielding reliable and valid scores for hope and suspense be developed. And while scales of fear exist, a scale for fear that is comparable or parallel to the scales of hope and fear in terms of the number of items and intensity

level of these items (i.e., timid vs. petrified) should be constructed as well. A list of hope, fear, and suspense words was generated, and Studies 1 and 2 were conducted to develop the scales based on these words.

### **Hope, Fear, and Suspense Item Generation**

An initial sample of words that represent fear, hope, and suspense were developed based on the literature as well as dictionary and thesaurus searches, and are presented in Table 4.1. Words and phrases chosen to represent *hope* were based on Ortony et al.'s (1988) list of possible hope words and include *hope, anticipation, anticipatory excitement, excitement, expectancy, and looking forward to*. Ortony et al.'s conceptualization of hope is consistent with the conceptualization presented here. Further, *enthusiastic* was taken from Averill's (1975) *Semantic Atlas of Emotional Concepts*. Finally, a dictionary and thesaurus search produced other possible items as well: *Positive expectation, pleasant excitement, positive anxiousness, and eager*.

The words chosen to represent *fear* were based on Ortony et al.'s (1988) list of fear words and Frijda et al.'s (1992) research in which a comprehensive list of fear words were developed. The purpose of their study was to illustrate the importance of the perceived emotional intensity of words, and they used fear words as an illustrative example. No scale was developed in their study. These words include *concerned, afraid, fear, nervous, scared, worried, timid, apprehensive, cowardly, dread, terrified, petrified, and cowering*. Further, *frightened* and *panicked* were taken from Averill's (1975) *Semantic Atlas of Emotional Concepts*. Finally, *negative anxiousness* was chosen to complement the potential hope word, *positive anxiousness*.

**TABLE 4.1**  
**Initial List of Words/Phrases to**  
**Represent Hope, Fear, and Suspense**

Construct	Words/Phrases	Sources*
<i>Hope</i>	Hope, anticipation, anticipatory excitement, excitement, expectancy, looking forward to, enthusiastic, positive expectation, pleasant excitement, positive anxiousness, eager	Averill (1975); Ortony, Clore, and Collins (1988)
<i>Fear</i>	Concerned, afraid, fear, nervous, scared, worried, timid, apprehensive, cowardly, dread, terrified, petrified, cowering, frightened, panicked, negative anxiousness	Averill (1975); Frijda, Ortony, Sonnemans, and Clore (1992); Ortony, et al. (1988);
<i>Suspense</i>	Suspense, tension, conflict, stiffness, tautness, rigidity, pressure, unrest, imbalance, strain, uneasy, tightness, jittery, anxious, shaky, stimulated, energy, anticipatory arousal, turbulent, gripped, ill-at-ease, intense, stirred up, clutched up, on edge	Averill (1975); Dickman (2002); Schimmack and Grob (2000)

\*Dictionary and thesaurus searchers also generated items for the hope and suspense constructs.

Although Ortony et al. and Frijda et al. suggested *anxious* as a possible word to represent fear, because this word can sometimes have a positive connotation, *anxious* was categorized as a suspense word, *negative anxiousness* was included as a potential fear word, and *positive anxiousness* was included as a potential hope word. Most of the words generated to represent *suspense* were taken from a dictionary and thesaurus search. Words believed to represent this state of anticipatory arousal were based on the notion that people in such a state are likely to be imbued with energy yet unable to release this energy because they are uncertain of the outcome and thus uncertain about what way they should feel once the outcome has occurred (i.e., satisfaction or disappointment; relief or

anguish). The suspense items based on the dictionary and thesaurus search included the following: *suspense, tension, conflict, stiffness, tautness, rigidity, pressure, unrest, imbalance, strain, uneasy, tightness, jittery, anxious, shaky, stimulated, energy, anticipatory arousal, and turbulent*. The words *gripped, ill-at-ease, intense, and stirred up* were taken from Averill's list (Averill 1975). Additionally, two more descriptors were added based on scales proposed to measure tense arousal: *clutched up* (Dickman 2002; Schimmack and Grob 2000) and *on edge* (Dickman 2002). Thus, the initial list contains a total of 52 words—11 hope words, 16 fear words, and 25 suspense words.

### **Pretest**

The purpose of this pretest was to determine if any of the words developed to measure hope, fear, and suspense were seriously flawed before progressing to Study 1, which required respondents to rate each word using 18 semantic differential items. The number of items generated for hope, fear, and suspense was 52. Thus, reducing the number of items could reduce potential respondent fatigue.

A total of 129 undergraduate students read a short suspense scenario, either a hopeful (n=48), fearful (n=39), or ambivalent (n=42) suspense story. These scenarios are presented in Table 4.2. The scenario for hopeful suspense was about watching a best friend open a gift. The scenario for fearful suspense was about missing an important connecting flight. The scenario for ambivalent suspense was about a high stakes gamble. The outcomes of the scenario were not provided to prevent the resolution emotions of satisfaction, disappointment, anguish or relief from being evoked.

**TABLE 4.2**  
**Hopeful, Fearful, and Ambivalent Suspense Scenarios**  
**Used in Pretest and Study 2**

<b>Suspense Type</b>	<b>Scenario</b>
<i>Hopeful Suspense</i>	After a tremendous amount of searching, you have finally found a birthday gift for one of your best friends. And it is absolutely <i>perfect</i> gift—you think your friend will <i>love</i> it. As your friend slowly unwraps your gift, how would you feel during this experience?
<i>Fearful Suspense</i>	You will be flying to attend an interview for your dream job. Due to bad weather, the airport at your destination is experiencing heavy air traffic and your must circle for over 30 minutes before the plane can land. There is now a high possibility that you may be late for your interview, which cannot be rescheduled. How would you feel during this experience?
<i>Ambivalent Suspense</i>	You have taken a trip to Las Vegas. After 3 days, you have enjoyed your trip, but feel as though you want to make a big wager before you leave. You decide to go to the roulette table and place a \$200 bet on “black.” The ball spins around the wheel and finally begins bouncing on the wheel. How would you feel during this experience?

Respondents reading the hopeful scenario rated the hope words, those reading the fearful scenario rated the fear words, and those reading the ambivalent scenario rated the suspense words. The words were rated on a 9-point scale anchored with “does not describe my feelings at all” and “describes my feelings extremely well.” To address order effects, two versions of the questionnaire for each of the stories were developed: Version A included a randomly ordered list of words, and Version B included the reversed order

**TABLE 4.3**  
**Study 1:**  
**Means and Standard Deviations**  
**of Hope, Fear, and Suspense Words in Scale Development Pretest**

Hope Items	Mean of Hope Items (n=48)	Fear Items	Mean of Fear Items (n=39)	Suspense Items	Mean of Suspense Items (n=42)
Anticipation	7.48 (1.40)	Afraid	4.36 (2.40)	Anticipatory	
Anticipatory		Apprehensive	5.82 (2.17)	Arousal	7.22 (1.92)
Excitement	7.67 (1.65)	Concern	8.08 (1.11)	Anxious	7.93 (1.13)
Eager	7.31 (1.57)	Cowardly <sup>a</sup>	2.26 (1.64)	Clutched Up	5.74 (1.98)
Enthusiastic	7.35 (1.58)	Cowering <sup>a</sup>	2.82 (1.92)	Conflict	5.74 (2.25)
Excitement	7.66 (1.49)	Dread	5.08 (2.42)	Energy	6.83 (1.53)
Expectancy	6.88 (1.59)	Fear	4.74 (2.62)	Gripped	5.81 (1.92)
Hope	6.81 (1.94)	Frightened	3.72 (2.35)	Ill-at-Ease	5.50 (2.19)
Looking		Negative		Imbalance	4.36 (2.24)
Forward To	7.58 (1.54)	Anxiousness	6.87 (2.14)	Intense	7.62 (1.50)
Positive		Nervous	7.97 (1.22)	Jittery	6.19 (2.13)
Anxiousness	7.17 (1.75)	Panicked	7.08 (1.90)	On Edge	7.31 (1.77)
Positive		Scared	4.03 (2.59)	Pressure	6.12 (2.19)
Excitement	7.46 (1.20)	Petrified	3.51 (2.51)	Rigidity	4.71 (2.40)
Pleasant		Terrified	3.59 (2.34)	Shaky	5.45 (2.18)
Excitement	7.48 (1.37)	Timid	3.36 (2.11)	Stimulated	6.55 (2.04)
		Worried	7.90 (1.50)	Stirred Up	5.48 (1.93)
				Stiffness	5.43 (2.46)
				Strain	4.79 (2.35)
				Suspense	7.74 (1.42)
				Tautness	5.02 (2.04)
				Tension	6.44 (1.88)
				Tightness	5.88 (2.49)
				Turbulent	4.60 (2.19)
				Uneasy	6.05 (2.02)
				Unrest	5.55 (2.23)

Standard deviations are presented in parentheses.

<sup>a</sup>These items were dropped from further studies due to their low means.

of the Version A list. Words that had a mean score that was drastically lower than the other words were eliminated from the following studies.

The means of each of the items are reported in Table 4.3. The words *cowardly* (M=2.26) and *cowering* (M=2.82) were not included in further studies because their



means were lower than 3.00, thus leaving 50 potential hope, fear, and suspense words for Studies 1 and 2.

### **Studies 1 and 2: Procedures**

Studies 1 and 2 were both large-scale studies designed to generate scales for hope, fear, and suspense. The results of these studies are presented together in the following section.

#### ***Study 1 Procedure***

Study 1 study was based on the work of Osgood, Suci, and Tannenbaum (1957), who developed semantic differential scales to assess the meaning of words. Their series of factor analytic studies, in which a large number of adjective pairs were used to assess a variety of words, repeatedly found three dimensions that supposedly underlie the meaning of words: evaluative, potency, and activity. The evaluative and activity dimensions appear to be consistent with the dimensions of valence (positive and negative affect) and arousal, which emotion researchers have empirically identified as or have assumed are the two basic components of emotion (Frijda 1994; Ortony et al. 1988; Russell 1980; Watson and Tellegen 1985). Based on the Osgood et al. framework, respondents rated the hope, fear, and suspense words that remained after the pretest using Osgood et al.'s semantic differential scales for each of the evaluative and activity dimensions (8 and 5 adjective pairs, respectively). Further, four additional adjective pairs were included that are conceptually consistent with the evaluative/valence and activity/arousal dimensions, for a total of 18 adjective pairs. These 18 semantic differential scales consisted of 7 scale points, and they are shown in Table 4.4. Other

**TABLE 4.4**  
**Osgood, Suci and Tannenbaum's (1957)**  
**Semantic Differential Scales to Assess**  
**the Evaluative and Activity Dimensions of Words**

Dimension	Adjective Pair
<i>Evaluative</i>	Good-bad Beneficial-harmful Optimistic-pessimistic Light-dark Pleasurable-painful Positive-negative White-black Desirable-undesirable <sup>a</sup>
<i>Activity</i>	Alive-dead Active-passive Energetic-inert Hot-cold Emotional-unemotional Fast-slow Alert-unalert <sup>a</sup> Intense-mild <sup>a</sup> Frenzied-sluggish <sup>a</sup> Aroused-unaroused <sup>a</sup>

<sup>a</sup> Adjective pairs chosen to supplement Osgood et al.'s items.

emotion researchers have also used the Osgood et al. scales to evaluate emotion words and have followed a similar procedure (Averill 1975; Vakock and Wurm 1997).

Because rating all 52 words on each of the 18 semantic differential adjective pairs would likely cause respondent fatigue and, thus, measurement error, respondents instead rated 10 hope, fear, and/or suspense words. The 50 words were first randomized, and then divided into 10 overlapping word sets (e.g., 1-10, 5-15, 11-20). Further, each word set was presented in the randomized order, as well as the reverse order. Also, for each of

these two questionnaires, the semantic differential scales also were presented in a random order for one questionnaire, as well as the reverse order for the other questionnaire. Thus, this resulted in 4 versions of the questionnaire for each word set. Finally, 7 of the 18 semantic differential items were reversed on the questionnaire (e.g., “good-bad” was reversed to “bad-good”).

### ***Study 2 Procedure***

Study 2 was also aimed at developing scales using factor analytic techniques. Specifically, respondents were asked to read one of three suspense stories—the same stories read in the pretest. Participants read either a hopeful suspense story (about watching a friend open a gift), a fearful suspense story (about possibly missing an important flight), or an ambivalent suspense story (about playing roulette), all of which are presented in Table 4.2. Participants then rated their reaction to the story using the 50 hope, fear, and suspense words on a 7-point scale anchored with the scale descriptors “not at all” and “very intensely”.

The hope, fear, and suspense words were interspersed within a sample of emotion words taken from Richin’s Consumer Emotion Set (Richins 1997). The CES was developed to assess a variety of emotions felt during common consumption experiences. The scale consists of 16 emotion groups or clusters, with 2 to 3 items per emotion cluster, in addition to 4 emotion words that do not fall under any cluster. One word from each cluster and three of the four additional emotion words were selected for inclusion in this study. Because four of the clusters overlap conceptually with either hope or fear, which included *worry*, *fear*, *optimism*, and *excitement*, the emotion words associated with these

clusters were not included. The list of 15 CES items that were used included the following words: *angry, unfulfilled, depressed, embarrassed, jealous, lonely, surprised, sexy, warm hearted, calm, contented, happy, guilty, proud, and relieved*. The purpose of using these words was to reduce the redundancy of the hope, fear, and suspense words. For each of the three scenarios, two versions of the questionnaire were developed to prevent order bias. Version A presented the items in random order, and Version B presented the items in the reversed order.

### **Studies 1 and 2: Results**

Studies 1 and 2 were both large-scale studies designed to generate scales for hope, fear, and suspense. Study 1 used O-technique factor analysis (Cattell 1966) (as will be explained), while Study 2 used the more common R-technique factor and confirmatory factor analysis. These data sets were interpreted simultaneously to produce the best instruments, in which words with low loadings or high cross-loadings were discarded until a desirable set of words was uncovered. The following discussion presents only results for the final sets of words for hope, fear, and suspense from each of the two data sets. The case is made that these items perform reasonably. Favorable results for these words generalized across the two studies.

The final words for the hope scale were *anticipatory excitement, eager, enthusiastic, excitement, looking forward to, positive anxiousness, pleasant excitement, and positive expectation*. The final words for the fear scale were *afraid, dread, fear, frightened, panicked, petrified, and terrified*. And the final words for the suspense scale were *ill-at-ease, tension, tightness, uneasy, and suspense*.

### ***Study 1 Results***

Study 1 was the first study aimed at uncovering whether the proposed words for each hope, fear, and suspense would form stable factors. A total of 553 undergraduate business majors participated in this study. On average, 109.8 respondents rated each emotion word, with the word *fear* rated by the fewest number of respondents (n=98) and the word *tightness* rated by the largest number of respondents (n=124).

O-technique factor analysis was used to analyze the data (Cattell 1996). This technique differs from the more common R-technique factor analysis. In R-technique factor analysis, the columns represent the variables and the rows represent the observations (or individuals). Rather, this O-technique factor analyzed a data matrix in which the emotions words represented the columns and the semantic differentials represented the rows. This data matrix was created by first calculating the mean for each of the 18 semantic differential scales for all of the words. For example, the mean of the semantic differential scale *pessimistic/optimistic* was calculated for the word *hope*. These means were then used to form a data matrix in which the columns consisted of the hope, fear, and suspense words and the rows consisted of the 18 semantic differential items. The cells consisted of the means of each semantic differential for a particular word. Principal components analysis was performed on this data matrix.

The final hope, fear, and suspense words were analyzed separately using principal components analysis. The results of the final hope words are presented in Table 4.5. The 1-factor solution explained 72.01% of the variance, with *enthusiastic* having the largest factor loading (.979) and *anticipatory excitement* having the lowest loading (.721). The

Cronbach alpha for the hope scale was .94. Table 4.6 presents the analysis for the fear words. The 1-factor solution explained 96.90% of the variance, with *frightened* having the largest factor loading (.997) and *dread* having the lowest loading (.944). The Cronbach alpha for the fear scale was .99. Finally, the results of the suspense words are presented in Table 4.7. These words explained 90.19% of the variance. The word *tension* had the largest factor loading at .981, and the word *suspense* had the lowest loading at .904. The scale's Cronbach alpha was .95.

**TABLE 4.5**  
**Study 1:**  
**O-Technique Factor Analysis of Hope Words**

<b>Hope Items</b>	<b>Factor I</b>
Enthusiastic	.979
Excitement	.959
Eager	.888
Looking Forward To	.843
Positive Anxiousness	.813
Pleasant Excitement	.809
Positive Expectation	.742
Anticipatory Excitement	.721
Total Variance Explained	72.01%
Reliability ( $\alpha$ )	.94

**TABLE 4.6**  
**Study 1:**  
**O-Technique Factor Analysis of Fear Words**

Fear Items	Factor I
Frightened	.997
Terrified	.995
Afraid	.992
Fear	.992
Petrified	.989
Panicked	.980
Dread	.944
Total Variance Explained	96.90%
Reliability ( $\alpha$ )	.99

**TABLE 4.7**  
**Study 1:**  
**O-Technique Factor Analysis of Suspense Words**

Suspense Items	Factor I
Tension	.981
Uneasy	.978
Ill-at-Ease	.946
Tightness	.938
Suspense	.904
Total Variance Explained	90.19%
Reliability ( $\alpha$ )	.95

### *Study 2 Results*

Study 2 was also aimed at developing scales using factor analytic techniques. Specifically, respondents were asked to read one of three suspense stories—a hopeful suspense story (about watching a friend open a gift), a fearful suspense story (about possibly missing an important flight), or an ambivalent suspense story (about playing

roulette). Stories were randomly assigned. Participants then rated their reaction to the story using the 50 hope, fear, and suspense words. A total of 354 undergraduate business students participated: 120 students read the hopeful suspense story, 116 participants read the fearful suspense story, and 118 participants read the ambivalent suspense story.

*Means of items for hopeful, fearful, and ambivalent suspense stories.* Because each story was expected to elicit different emotions, the means of the items were first examined. Specifically, the hopeful suspense story (watching a friend open a gift) was expected to elicit the hope emotion; thus, the hope words were expected to have relatively high means. Further, because hope is conceptualized to be a component of suspense, the suspense words were also expected to have relatively high means for the hopeful suspense story. On the other hand, the fearful suspense story (missing a flight) was expected to elicit the fear emotion; thus, the fear words were expected to have relatively high means on this story. Further, because fear is conceptualized to be a component of suspense, the suspense words were expected to also have relatively high means for the fearful suspense story. Regarding the ambivalent suspense story (gambling at the roulette table), the means were expected to be relatively high for the hope, fear, and suspense words. Finally, the filler emotion words (i.e., guilty, jealous, lonely) were expected to be relatively low for all stories. These results are shown in Table 4.8.

As expected, for the hopeful suspense story (n=120), the hope words' means were high compared to the fear words. These means ranged from 5.28 (*anticipatory excitement*) to 5.58 (*excitement*), while the means of the fear words ranged from 1.34 (*terrified* and *dread*) to 2.26 (*afraid*). The means of the suspense words were also higher



**TABLE 4.8**  
**Study 2:**  
**Means (and Standard Deviations) of Hope, Fear, Suspense, and Filler Words**  
**For the Hopeful, Fearful, and Ambivalent Suspense Stories**

Emotion Items	Hopeful Suspense Story (n=120)	Fearful Suspense Story (n=116)	Ambivalent Suspense Story (n=118)
<b>Hope Words</b>			
Excitement	5.83 (1.11)	2.91 (1.83)	5.33 (1.49)
Looking Forward To	5.74 (1.06)	3.26 (1.82)	4.90 (1.57)
Positive Expectation	5.74 (1.09)	2.51 (1.55)	4.45 (1.54)
Positive Anxiousness	5.67 (1.15)	2.62 (1.69)	4.43 (1.73)
Pleasant Excitement	5.58 (1.16)	1.67 (0.98)	3.98 (1.66)
Enthusiastic	5.43 (1.19)	2.51 (1.49)	4.33 (1.73)
Eager	5.35 (1.25)	4.42 (1.88)	5.20 (1.40)
Anticipatory Excitement	5.28 (1.44)	2.83 (1.67)	4.94 (1.54)
<b>Fear Words</b>			
Panicked	1.53 (0.88)	4.60 (1.95)	3.48 (1.91)
Afraid	2.26 (1.49)	3.88 (1.92)	4.16 (1.89)
Dread	1.34 (0.82)	3.87 (1.97)	3.05 (1.68)
Fear	1.80 (1.16)	3.76 (1.79)	3.85 (1.88)
Frightened	1.81 (1.15)	3.63 (1.84)	3.91 (1.89)
Terrified	1.34 (0.67)	3.38 (1.71)	3.44 (1.87)
Petrified	1.43 (0.90)	2.82 (1.81)	3.14 (1.92)
<b>Suspense Words</b>			
Suspense	4.87 (1.47)	4.68 (1.55)	5.83 (1.23)
Tension	2.35 (1.46)	5.43 (1.38)	4.67 (1.71)
Uneasy	2.18 (1.34)	5.31 (1.50)	4.27 (1.78)
Tightness	2.59 (1.61)	4.46 (1.64)	4.05 (1.85)
Ill-at-ease	2.13 (1.39)	4.35 (1.81)	3.50 (1.93)
<b>Filler Emotion Words</b>			
Angry	1.05 (0.22)	4.54 (1.93)	1.68 (1.11)
Calm	3.27 (1.53)	2.05 (1.34)	1.93 (1.23)
Contented	3.97 (1.61)	1.91 (1.04)	2.43 (1.38)
Depressed	1.07 (0.29)	2.82 (1.75)	1.65 (1.13)
Embarrassed	1.69 (1.06)	2.83 (1.95)	1.86 (1.23)
Guilty	1.14 (0.47)	2.11 (1.50)	2.63 (1.68)
Happy	5.55 (1.13)	1.75 (1.56)	3.34 (1.59)
Jealous	1.24 (0.49)	1.41 (0.87)	1.53 (1.03)
Lonely	1.08 (0.31)	2.17 (1.51)	1.44 (0.96)
Proud	5.15 (0.22)	1.71 (1.27)	2.36 (1.30)
Relieved	2.97 (1.53)	1.43 (0.83)	1.82 (1.14)
Surprised	2.28 (1.50)	2.93 (1.61)	2.79 (1.71)
Sexy	1.57 (1.41)	1.55 (1.48)	2.05 (1.47)
Unfulfilled	1.33 (0.61)	2.47 (1.55)	2.36 (1.44)
Warm-hearted	5.14 (1.59)	1.94 (1.78)	2.08 (1.32)

Note: Standard deviations are presented in parentheses.

than the fear words ranging from 2.13 (*ill-at-ease*) to 4.87 (*suspense*). Finally, regarding the filler words, a few words' means were relatively large: *happy* (5.14), *proud* (5.15), *warmhearted* (5.14). Considering the hopeful suspense story's context, the means of these words can be expected. A person would likely feel warm-hearted when giving his/her best friend a gift. Further, giving someone a gift that the person is expected to like should also elicit happiness and pride because the giver was able to pick a wonderful gift.

The means of the fearful suspense story (n=116) also operated as expected. The means of the fear words were relatively larger than those of the hope words, ranging from 2.82 (*petrified*) to 4.60 (*panicked*), whereas the means of the hope words ranged from 1.67 (*pleasant excitement*) to 4.42 (*eager*). Further, the means for the suspense words were relative large with *ill-at-ease* having the lowest mean of 4.35 and *uneasy* having the largest mean of 5.31. Of the filler words, *angry* (4.54) was the only word with a mean higher than 4.00. The other emotions words had means no larger than 3.00.

Finally, the means of the words in the ambivalent suspense story (n=118) operated closely to what was expected. The hope words' means were relatively large: all were above 4.00 except for *pleasant excitement* (3.98). The fears words' means ranged from 3.05 (*dread*) to 4.16 (*afraid*), and the suspense words' means ranged from 3.50 (*ill-at-ease*) to 5.83 (*suspense*). Of the filler words, only one word's mean was larger than 3.00: *happy* had a mean of 3.34.

*Exploratory factor analysis.* Principal components factor analyses (Thompson 2004) were performed on each of the final hope, fear, and suspense scales, as well as all

**TABLE 4.9**  
**Study 2:**  
**Principal Components Factor Analysis of Hope Words**  
**for All Stories and the Hopeful, Fearful, and Ambivalent Suspense Stories**

Hope Items	Hopeful Suspense Story (n=120)	Fearful Suspense Story (n=116)	Ambivalent Suspense Story (n=118)	All Stories (n=354)
	Factor I	Factor I	Factor I	Factor I
Anticipatory Excitement	.714	.629	.660	.786
Eager	.675	.532	.722	.604
Enthusiastic	.846	.809	.837	.896
Excitement	.798	.834	.699	.867
Looking Forward To	.684	.701	.790	.826
Pleasant Excitement	.673	.689	.765	.864
Positive Anxiousness	.772	.662	.737	.839
Positive Expectation	.774	.762	.754	.874
<b>Total Variance Explained</b>	55.40%	50.19%	55.81%	67.93%
<b>Reliability (<math>\alpha</math>)</b>	.88	.85	.89	.93

three scales simultaneously. Further, these analyses were performed for each story to assess the generalizability of the factor solutions.

The results of the principal components analysis for the *hope* words are shown in Table 4.9. For the entire sample (n=354), the factor loadings for the retained hope items range from .604 to .896, the total variance extracted is 67.93%, and the Cronbach alpha is .93. When considering each story separately, the total variance ranged from 50.19% to 55.40%, and the Cronbach alphas ranged from .85 to .89. The retained *fear* words also performed well for the entire sample, as well as for all 3 stories separately, as shown in Table 4.10. For the entire sample, the factor loadings for the retained fear items ranged

**TABLE 4.10**  
**Study 2:**  
**Principal Components Factor Analysis of Fear Words**  
**for All Stories and the Hopeful, Fearful, and Ambivalent Suspense Stories**

Fear Items	Hopeful Suspense Story (n=120)	Fearful Suspense Story (n=116)	Ambivalent Suspense Story (n=118)	All Stories (n=354)
	Factor I	Factor I	Factor I	Factor I
Afraid	.692	.857	.839	.848
Dread	.763	.773	.740	.820
Fear	.693	.873	.888	.894
Frightened	.689	.867	.904	.893
Panicked	.711	.782	.890	.864
Petrified	.829	.852	.887	.879
Terrified	.742	.839	.879	.892
<b>Total Variance Explained</b>	53.72%	63.83%	74.43%	75.78%
<b>Reliability (<math>\alpha</math>)</b>	.84	.93	.94	.95

**TABLE 4.11**  
**Study 2:**  
**Principal Components Factor Analysis of Suspense Words**  
**for All Stories and the Hopeful, Fearful, and Ambivalent Suspense Stories**

Suspense Items	Hopeful Suspense Story (n=120)	Fearful Suspense Story (n=116)	Ambivalent Suspense Story (n=118)	All Stories (n=354)
	Factor I	Factor I	Factor I	Factor I
Ill-at-Ease	.700	.722	.725	.798
Suspense	.562	.744	.637	.508
Tension	.838	.859	.867	.903
Tightness	.817	.793	.781	.838
Uneasy	.843	.810	.860	.895
<b>Total Variance Explained</b>	57.76%	61.98%	60.67%	64.27%
<b>Reliability (<math>\alpha</math>)</b>	.81	.84	.83	.86

from .820 to .894, the total variance extracted was 75.78%, and the Cronbach's alpha was .95. When each story was analyzed separately, the total variance extracted ranged from 53.72% to 74.43%, and the Cronbach's alphas ranged from .84 to .94. The results for the final set of *suspense* words are presented in Table 4.11. For the entire sample, the loadings ranged from .508 to .903, and the total variance explained was 64.27%. The Cronbach's alpha was .86. The analyses of each story resulted in the items explaining from 57.76% to 61.98% of the variance and in the Cronbach's alphas ranging from .81 to .84.

The hope, fear, and suspense items were then analyzed *together* using varimax-rotated principal components factor analysis. The three-factor model is presented in Table 4.12. For the total sample, three factors emerged each representing the hypothesized hope, fear, and suspense items. After rotation, the total variance explained was 73.04%, with the Factor I (comprised of the hope items) explaining 28.73% of the variance, Factor II (comprised of the fear items) explaining 27.74% of the variance, and Factor III (comprised of the suspense items) explaining 16.53% of the variance. The reliabilities for the factors were .93, .95, and .86, respectively. These reliabilities were statistically significant ( $p < .001$ ) with a null hypothesis that the Cronbach's alpha is equal to .70 (Fan and Thompson 2001). The lower boundaries of the 95% confidence intervals for these reliabilities were all over .70, with the lowest confidence interval boundary at .83. The factor loadings ranged from .665 to .862 on Factor I, from .692 to .881 for Factor II, and from .594 to .757 on Factor III.

**TABLE 4.12**  
**Study 2:**  
**Varimax-Rotated Principal Components Factor Analysis**  
**of Hope, Fear, and Suspense Words**  
**for All Stories and for the Hopeful, Fearful, and Ambivalent Suspense Stories**

	All Stories (n=354)			Hopeful Suspense Story (n=120)		
	Factor I	Factor II	Factor III	Factor I	Factor II	Factor III
<i>Hope Items</i>						
Anticipatory Excitement	<b>.810</b>	-.054	.093	<b>.696</b>	-.029	.153
Eager	<b>.665</b>	.186	.033	<b>.681</b>	.245	.141
Enthusiastic	<b>.856</b>	-.188	-.158	<b>.848</b>	.014	-.006
Excitement	<b>.862</b>	-.094	-.079	<b>.803</b>	-.050	.024
Looking Forward To	<b>.797</b>	-.116	-.186	<b>.693</b>	-.071	-.102
Pleasant Excitement	<b>.801</b>	-.279	-.207	<b>.679</b>	-.015	-.082
Positive Anxiousness	<b>.794</b>	-.224	-.141	<b>.744</b>	-.018	.221
Positive Expectation	<b>.810</b>	-.246	-.223	<b>.756</b>	-.103	.097
<i>Fear Items</i>						
Afraid	-.037	<b>.877</b>	.099	-.079	<b>.807</b>	-.177
Dread	-.285	<b>.692</b>	.367	-.171	<b>.657</b>	.381
Fear	-.054	<b>.844</b>	.300	.163	<b>.712</b>	.132
Frightened	-.077	<b>.881</b>	.189	-.032	<b>.761</b>	-.086
Panicked	-.280	<b>.755</b>	.343	-.060	<b>.615</b>	.378
Petrified	-.051	<b>.858</b>	.205	-.119	<b>.765</b>	.232
Terrified	-.152	<b>.805</b>	.343	-.054	<b>.603</b>	.440
<i>Suspense Items</i>						
Ill-at-Ease	-.255	.193	<b>.757</b>	-.027	-.070	<b>.734</b>
Suspense	.428	.193	<b>.594</b>	.257	.020	<b>.521</b>
Tension	-.052	.370	<b>.750</b>	.105	.175	<b>.778</b>
Tightness	-.259	.423	<b>.748</b>	.056	.225	<b>.768</b>
Uneasy	-.324	.426	<b>.748</b>	.019	.249	<b>.801</b>
<b>Total Variance Explained</b> (73.05%/ 58.12%)	28.78%	27.74%	16.53%	22.71%	18.62%	16.79%
<b>Reliability (<math>\alpha</math>)</b>	.93*	.95*	.86*	.88*	.84*	.81*
<b>95% Confidence Interval</b> <b>for Reliability (<math>\alpha</math>)</b>	.92 to .94	.94 to .95	.83 to .88	.85 to .91	.79 to .88	.75 to .86

TABLE 4.12 (continued)

	Fearful Suspense Story (n=116)			Ambivalent Suspense Story (n=118)		
	Factor I	Factor II	Factor III	Factor I	Factor II	Factor III
<i>Hope Items</i>						
Anticipatory Excitement	.055	<b>.638</b>	.303	.057	<b>.648</b>	.374
Eager	.275	<b>.551</b>	.042	.207	<b>.719</b>	-.029
Enthusiastic	-.092	<b>.804</b>	-.078	-.053	<b>.835</b>	-.048
Excitement	-.040	<b>.831</b>	.026	.109	<b>.703</b>	.111
Looking Forward To	.040	<b>.699</b>	-.226	-.021	<b>.791</b>	.033
Pleasant Excitement	-.125	<b>.684</b>	.053	-.175	<b>.755</b>	.036
Positive Anxiousness	-.168	<b>.656</b>	.016	-.015	<b>.744</b>	-.152
Positive Expectation	-.014	<b>.748</b>	-.219	-.203	<b>.742</b>	-.073
<i>Fear Items</i>						
Afraid	<b>.864</b>	-.007	.108	<b>.849</b>	.008	.108
Dread	<b>.709</b>	-.108	.300	<b>.657</b>	-.074	.325
Fear	<b>.833</b>	.007	.243	<b>.848</b>	.076	.264
Frightened	<b>.853</b>	.028	.176	<b>.894</b>	-.022	.173
Panicked	<b>.718</b>	-.105	.312	<b>.887</b>	.059	.136
Petrified	<b>.849</b>	.026	.124	<b>.855</b>	-.081	.226
Terrified	<b>.796</b>	-.034	.248	<b>.819</b>	-.094	.304
<i>Suspense Items</i>						
Ill-at-Ease	.124	-.030	<b>.731</b>	.113	-.196	<b>.774</b>
Suspense	.250	.292	<b>.680</b>	.218	.325	<b>.567</b>
Tension	.296	-.169	<b>.797</b>	.346	.078	<b>.793</b>
Tightness	.263	-.019	<b>.751</b>	.431	.159	<b>.626</b>
Uneasy	.328	-.109	<b>.719</b>	.366	-.155	<b>.769</b>
<b>Total Variance</b>						
<b>Explained</b>	25.07%	20.73%	16.41%	27.47%	23.29%	15.49%
(62.21%/66.25%)						
<b>Reliability (<math>\alpha</math>)</b>	.85*	.93*	.84*	.89*	.94*	.83*
<b>95% Confidence Interval</b>	.80 to	.90 to	.79 to	.85 to	.93 to	.78 to
<b>for Reliability (<math>\alpha</math>)</b>	.88	.95	.88	.91	.96	.88

Note: Coefficients greater than |.5| are presented in bold. "Total Variance Explained" is post-rotation.

\*All reliabilities were statistically significant at  $p < .001$  for the null hypothesis that the reliability was equal to .70 ( $H_0 : \alpha = .70$ ).

This 3-factor structure was stable across the three stories as well. The total variance extracted was 58.12% for the hopeful story, 62.21% for the fearful suspense story, and 66.25% for the ambivalent suspense story. The Cronbach's alphas were above .81, and they were all statistically significant ( $p < .001$ ) with a null hypothesis that the Cronbach's alpha is equal to .70. The lower boundaries of the 95% confidence intervals were higher than .70. The first factor was not consistent across all stories, with the hope factor emerging first for the hopeful suspense story, and the fear factor emerging first for the fearful and ambivalent suspense stories. However, the suspense factor consistently emerged as the third factor for all of the analyses. Such variations in factor order are substantively irrelevant unless the extraction of a "G" factor dominating the factor space is expected (Thompson 2004).

*Confirmatory factor analysis.* To show further support for the scales found using exploratory factor analysis, confirmatory factor analysis using structural equation modeling with LISREL 8.54 was used to assess the dimensionality of the items. A 1-factor model was compared with a three-factor model. As shown in Table 4.13, the three-factor model's chi-square ( $df = 167$ ) was 678.44. The model fit the data reasonably well. While the RMSEA of .098 is not ideal (less than .08 is preferred), it is less than .10, which, according to Browne and Cudeck (1993), is acceptable. Further, the CFI of .96 and the NNFI of .96 are both above the recommended .95 (Fan, Thompson, and Wang 1999; Hu and Bentler 1999). Additionally, compared to a one-factor model, the three-factor model fit the data better, with a chi-square difference of 2069.46 ( $p < .001$ ,  $df = 3$ ). Further, the 1-factor model's fit statistics were relatively worse than the fit statistics of



**TABLE 4.13**  
**Study 2:**  
**Comparison of Models**

Model	$\chi^2$	$\chi^2$ Difference	DF	DF Difference	$\chi^2/DF$	CFI	NNFI	RMSEA
<i>All Stories</i>								
1-Factor Model	2747.90	---	170	--	16.164	.82	.80	.310
3-Factor Model	678.44	2069.46*	167	3	4.063	.96	.96	.098
<i>Hopeful Suspense Story</i>								
1-Factor Model	778.88	---	170	--	4.582	.67	.64	.240
3-Factor Model	271.17	507.71*	167	3	1.624	.94	.94	.076
<i>Fearful Suspense Story</i>								
1-Factor Model	695.98	---	170	--	4.094	.79	.76	.210
3-Factor Model	258.37	437.61*	167	3	1.547	.96	.96	.058
<i>Ambivalent Suspense Story</i>								
1-Factor Model	1283.59	---	170	--	7.551	.64	.60	.350
3-Factor Model	339.19	944.40*	167	3	2.031	.94	.94	.088

\*  $p < .001$

the 3-factor model: CFI = .82, NNFI = .80, and RMSEA = .310. The 1-factor and 3-factor models were also run on separately on the hopeful, fearful, and ambivalent suspense stories. These results were similar to those of the analyses with the 3 stories combined, as shown in Table 4.13. For each story, the 3-factor model fit better than the 1-factor model, with each chi-square difference test being statistically significant. For the hopeful suspense story, the chi-square difference was 507.71, for the fearful suspense story, the chi-square difference was 437.61, and for the ambivalent suspense story, the chi-square difference was 944.40 (for each story,  $p < .001$ ,  $df = 3$ ). The fit statistics for each of the analyses of the separate stories were within acceptable limits as well.

The convergent and discriminant validity were also assessed. Concerning convergent validity, Table 4.14 reports the standardized pattern and structure coefficients (Graham, Guthrie, and Thompson 2003; Thompson 1997) for the 3-factor models for all the stories as well as for the hopeful suspense, fearful suspense and ambivalent suspense stories. These results suggest convergent validity: all of the factor loadings were significant at  $p < .001$ . Additionally, Table 4.14 reports the composite reliability and the variance extracted for the hope, fear, and suspense constructs for all four models. The composite reliability for each construct across the four models is greater than the recommended values of .60 (Bagozzi and Yi 1988) and .70 (Hair, Anderson, Tatham, and Black 1998), ranging from .82 to .95. Further, as suggested by Fornell and Larcker (1981), the variance extracted for each of the constructs exceeds .50, ranging from .70 to .93.

**TABLE 4.14**  
**Study 2:**  
**Pattern and Structure Coefficients for the Three-Factor Measurement Models**  
**for All Stories and for the Hope, Fear, and Suspense Stories**

Constructs and Measurement Items	All Stories				Hopeful Story			
	Pattern Coefficients <sup>a</sup>	Structure Coefficients <sup>b</sup>			Pattern Coefficients <sup>a</sup>	Structure Coefficients <sup>b</sup>		
<i>Hope</i>								
Anticipatory								
Excitement	.73	.73	-.29	-.37	.67	.67	-.04	.10
Eager	.53	.53	-.21	-.27	.63	.63	-.04	.09
Enthusiastic	.89	.89	-.35	-.45	.84	.84	-.05	.12
Excitement	.85	.85	-.33	-.43	.77	.77	-.04	.11
Looking Forward To	.79	.79	-.31	-.40	.62	.62	-.04	.09
Pleasant Excitement	.86	.86	-.34	-.43	.62	.62	-.04	.09
Positive Anxiousness	.81	.81	-.32	-.41	.72	.72	-.04	.11
Positive Expectation	.87	.87	-.34	-.44	.72	.72	-.04	.11
<b>Composite Reliability</b>	<b>.93</b>				<b>.88</b>			
<b>Variance Extracted</b>	<b>.90</b>				<b>.79</b>			
<i>Fear</i>								
Afraid	.81	-.32	.81	.60	.55	-.03	.55	.29
Dread	.79	-.31	.79	.59	.75	-.04	.75	.39
Fear	.88	-.34	.88	.65	.59	-.03	.59	.31
Frightened	.87	-.34	.87	.64	.57	-.03	.57	.29
Panicked	.84	-.33	.84	.63	.67	-.04	.67	.35
Petrified	.85	-.33	.85	.63	.81	-.05	.81	.42
Terrified	.88	-.35	.88	.66	.75	-.04	.75	.39
<b>Composite Reliability</b>	<b>.95</b>				<b>.85</b>			
<b>Variance Extracted</b>	<b>.93</b>				<b>.73</b>			
<i>Suspense</i>								
Ill-at-Ease	.72	-.36	.53	.72	.58	.09	.30	.58
Suspense	.36	-.18	.27	.36	.44	.06	.23	.44
Tension	.90	-.45	.67	.90	.82	.12	.42	.82
Tightness	.75	-.38	.56	.75	.75	.11	.39	.75
Uneasy	.91	-.46	.68	.91	.82	.12	.42	.82
<b>Composite Reliability</b>	<b>.86</b>				<b>.82</b>			
<b>Variance Extracted</b>	<b>.79</b>				<b>.70</b>			

TABLE 4.14 (Continued)

Constructs and Measurement Items	Fearful Story			Ambivalent Story				
	Pattern Coefficients <sup>a</sup>	Structure Coefficients <sup>b</sup>		Pattern Coefficients <sup>a</sup>	Structure Coefficients <sup>b</sup>			
<i>Hope</i>								
Anticipatory	.56			.59				
Excitement		.56	-.04	-.07		.59	-.03	.00
Eager	.45	.45	-.03	-.06	.67	.67	-.03	.00
Enthusiastic	.80	.80	-.06	-.11	.83	.83	-.04	.00
Excitement	.83	.83	-.06	-.11	.65	.65	-.03	.00
Looking Forward To	.63	.63	-.05	-.08	.75	.75	-.04	.00
Pleasant Excitement	.62	.62	-.05	-.08	.74	.74	-.04	.00
Positive Anxiousness	.58	.58	-.04	-.08	.69	.69	-.03	.00
Positive Expectation	.73	.73	-.05	-.10	.71	.71	-.04	.00
<b>Composite Reliability</b>	<b>.86</b>				<b>.89</b>			
<b>Variance Extracted</b>	<b>.73</b>				<b>.80</b>			
<i>Fear</i>								
Afraid	.83	-.06	.83	.50	.82	-.04	.82	.54
Dread	.72	-.05	.72	.43	.69	-.03	.69	.46
Fear	.86	-.06	.86	.51	.87	-.04	.87	.57
Frightened	.85	-.06	.85	.51	.89	-.04	.89	.59
Panicked	.74	-.05	.74	.44	.87	-.04	.87	.57
Petrified	.82	-.06	.82	.49	.86	-.04	.87	.57
Terrified	.81	-.06	.81	.48	.86	-.04	.86	.57
<b>Composite Reliability</b>	<b>.93</b>				<b>.94</b>			
<b>Variance Extracted</b>	<b>.89</b>				<b>.92</b>			
<i>Suspense</i>								
Ill-at-Ease	.60	-.08	.36	.61	.64	.00	.42	.65
Suspense	.64	-.09	.38	.64	.52	.00	.34	.51
Tension	.86	-.11	.51	.86	.84	.00	.55	.83
Tightness	.72	-.10	.43	.73	.71	.00	.47	.71
Uneasy	.78	-.10	.46	.78	.84	.00	.56	.85
<b>Composite Reliability</b>	<b>.85</b>				<b>.84</b>			
<b>Variance Extracted</b>	<b>.75</b>				<b>.74</b>			

<sup>a</sup> All pattern coefficients (more commonly referred to as “factor loadings”) are significant at  $p < .001$ .

<sup>b</sup> Structure coefficients are the correlation of the item with the construct. These values cannot be tested for statistical significance.

Discriminant validity was assessed using Anderson and Gerbing’s (1988) two suggested methods. First, discriminant validity between each pair of constructs (for each of the four models: all stories, hopeful story, fearful story, and ambivalent story) was assessed using confidence intervals. Specifically, this test requires that, to achieve discriminant validity, an interval of  $\pm 2$  standard errors around the estimated parameter

**TABLE 4.15**  
**Study 2:**  
**Test of Discriminant Validity**  
**by Examining Intervals Around Correlation Parameters**

	$\Phi$	Standard Error	-2 Standard Errors	+2 Standard Errors
<i>All Stories</i>				
Hope-Fear	-.39	.05	-.49	-.29
Hope-Suspense	-.50	.04	-.58	-.42
Fear-Suspense	.74	.03	.68	.80
<i>Hopeful Story</i>				
Hope-Fear	-.06	.10	-.26	.14
Hope-Suspense	.15	.10	-.05	.35
Fear-Suspense	.52	.08	.36	.68
<i>Fearful Story</i>				
Hope-Fear	-.07	.10	-.27	.13
Hope-Suspense	-.13	.10	-.33	.07
Fear-Suspense	.60	.07	.46	.74
<i>Ambivalent Story</i>				
Hope-Fear	-.05	.10	-.25	.15
Hope-Suspense	0	.10	-.20	.20
Fear-Suspense	.66	.06	.54	.78

correlation between two factors should not include 1.0. As reported in Table 4.15, none of the intervals of the factor correlations ( $\Phi$ ) include 1.0. This is the case for the measurement model in which the all stories are combined and for the measurement models of the hopeful, fearful, and ambivalent stories. A second test used to determine discriminant validity between two constructs is to constrain the two estimated constructs to be correlated 1.0. The chi-square value of the constrained model is then compared to the chi-square value of the unconstrained model (in which all correlations among

**TABLE 4.16**  
**Study 2:**  
**Test of Discriminant Validity**  
**by Constraining Correlation Parameters to Equal 1.0**

Alternative Models	$\chi^2$ Values	$\chi^2$ Difference <sup>a,b,c</sup>
<i>All Stories</i>		
Correlation Parameters Unconstrained	678.44	
Hope and Fear Constrained to 1	2410.80	1732.36
Hope and Suspense Constrained to 1	1394.23	715.79
Fear and Suspense Constrained to 1	1092.21	413.77
<i>Hopeful Story</i>		
Correlation Parameters Unconstrained	271.17	
Hope and Fear Constrained to 1	543.25	272.08
Hope and Suspense Constrained to 1	466.05	194.88
Fear and Suspense Constrained to 1	401.77	130.60
<i>Fearful Story</i>		
Correlation Parameters Unconstrained	258.37	
Hope and Fear Constrained to 1	559.36	300.99
Hope and Suspense Constrained to 1	474.26	215.89
Fear and Suspense Constrained to 1	389.78	131.41
<i>Ambivalent Story</i>		
Correlation Parameters Unconstrained	339.19	
Hope and Fear Constrained to 1	714.33	375.14
Hope and Suspense Constrained to 1	708.99	369.80
Fear and Suspense Constrained to 1	454.32	115.23

<sup>a</sup> Value indicates difference between the unconstrained model and the constrained model.

<sup>b</sup> Each difference test's *df* is equal to 1.

<sup>c</sup> The chi-square statistic is statistically significant ( $p < .001$ ) at 10.83 for 1 degree of freedom. Thus, all difference tests were significantly significant, indicating discriminant validity between each of the construct pairs.

the constructs were freed). If the chi-square value of the unconstrained model is less than the chi-square value of the constrained model, and if this chi-square difference is statistically significant, then the test suggests that there is discriminant validity between the two constructs. This test was performed on all pairs of constructs for the models (all

stories, hopeful story, fearful story, and ambivalent story). As reported in Table 4.16, all the chi-square difference tests comparing unconstrained and constrained models were statistically significant, providing further evidence of discriminant validity for each of the construct pairs for each of the models.

### Summary

The purpose of Studies 1 and 2 was to develop scales for hope, fear, and suspense that produce reliable scores. This objective was accomplished. The hope scale consisted of the words *anticipatory excitement, eager, enthusiastic, excitement, looking forward to, positive anxiousness, pleasant excitement, and positive expectation*; the fear scale consisted of the words *afraid, dread, fear, frightened, panicked, petrified, and terrified*; and the suspense scale consisted of the words *ill-at-ease, suspense, tension, tightness, and uneasy*.

These scales were based on exploratory and confirmatory factor analyses. The varimax-rotated principal components factor analyses extracted 3 factors for the entire sample, as well as for the sub samples of the hopeful, fearful, and ambivalent suspense stories. Further, the items consisting of these three factors (hope, fear, and suspense) loaded in the theoretically expected manner. Further support for the scales was found with the confirmatory factor analysis results. The scales showed convergent and discriminant validity for the entire sample, as well as for the hopeful, fearful, and ambivalent suspense story sub samples.

The next chapter presents the third and final study. This study addressed the structural relationships among hope, fear, and suspense. It also addressed three

antecedents of suspense—approach appraisal, avoidance appraisal, and frequency of probability change.



## CHAPTER V

### PHASE 2 METHODOLOGY AND RESULTS:

#### TESTING OF PROPOSED CONCEPTUALIZATION

#### OF SUSPENSE AND SELECTED ANTECEDENTS LEADING TO SUSPENSE

The objective of Phase 1 of the empirical testing was to develop scales that produced reliable scores for *hope*, *fear*, and *suspense*. Phase 2's objective was to test several proposed relationships. Specifically, one experiment was designed to test the proposed conceptualization of suspense—that *hope* and *fear* are components of *suspense* (all three of which were measured). Further, this experiment also tested Propositions 1 and 2—that an *approach appraisal* causes *hope* and an *avoidance appraisal* causes *fear*. Additionally, Propositions 3 and 4—that *frequency of probability change* moderates the approach-hope and avoidance-fear relationships—were tested.

#### Study Design

The experiment employed a 2 (approach appraisal) X 2 (avoidance appraisal) X 2 (frequency of probability) between-subjects design in which *hope*, *fear*, and *suspense* were measured using the scales developed in Phase 1. Thus, 8 different versions of the story were created. Participants (the sample will be discussed in a later section) were provided with a questionnaire that contained the manipulated story, the dependent measures, and other measured variables. The story and the manipulation check items were pretested and are discussed in the later section. A description of the final manipulations and measures are presented as follows. Appendix A presents the questionnaire, and Appendix B presents the final manipulations.

### *Suspense Scenario and Manipulations*

Participants were asked to read a one-page suspenseful story. The story/scenario method was chosen because scenarios allow the manipulation of the appraisals and do not clue participants as to what emotions should be felt. Thus, scenarios have an advantage over a method in which emotions are recalled from a personal life experience (Gopinath 1996; Roseman 1991). Cognitive appraisal (Roseman 1991; van Dijk et al. 1999; Weiner, Graham, and Chandler 1982; Weiner, Russell, and Lerman 1978) suspense (Brewer and Lichtenstein 1982; Gerrig and Bernardo 1994; Hoeken and van Vliet 2000; Jose and Brewer 1984; Jose and Brewer 1990; Kassler 1996), and marketing researchers (Dube' and Maute 1998; Gopinath 1996; Smith and Bolton 2002) have successfully used the story/scenario method in experimental designs.

The story was about a young couple purchasing a home in a new city. This context was chosen because it was assumed that most people understand the process of purchasing a home (as compared to shopping on e-Bay [another context considered], which may not be well understood by people who are not experienced Internet users). Further, this selected context allowed the manipulation of both the approach and avoidance appraisals.

The story began with Chris, a young professional, being notified that he had received a promotion but that the promotion would require his family relocate from Dallas to Denver. The *avoidance appraisal*, *approach appraisal*, and *frequency of probability change* were manipulated as follows. The *high avoidance* manipulation stated that Chris did not have much time to look for a new home. Thus, not finding a home on the first

(and only) trip to Denver would require his family to move into an apartment temporarily, as well as store their belongings in storage. In essence, the family would have to move twice. In contrast, the *low avoidance* manipulation stated that Chris would have plenty of time and financial resources to return to Denver to look for a home if he and his wife, Donna, did not find a suitable home on their first trip. The approach manipulation focused on the home. In the *high approach* manipulation, Chris and Donna find a house they think is perfect. Additionally, the house is located in a historic area and in an excellent school district. In the *low approach* manipulation, Chris and Donna think the house is “pretty nice, at least better than the other houses they saw.” Additionally, this manipulation states that Chris’ commute would be longer than he wished and that the home is not located in the best school district. Finally, the frequency of probability change manipulation focused on the probability that the seller would accept Chris and Donna’s offer. In the *high frequency of probability change* manipulation, the seller refuses Chris and Donna’s first and second bids on the home. Additionally, when their realtor informs them that the seller did not accept their second bid, they discover that another buyer is also interested in the house. In contrast, for the *low frequency of probability change* manipulation, Chris and Donna make only one bid. Thus, in the low frequency manipulation, the seller does not turn down their initial bid. Rather, the story mentions that Chris and Donna call their relatives, as well as consider different paint colors for the living room of their potentially new home. Care was taken to ensure that the word counts of the high and low versions of each the manipulations were essentially equal.

The story ended with a sentence stating that the realtor called with “the final word on the deal...” Thus, the outcome of whether the seller accepted Chris and Donna’s offer was not revealed. The rationale for doing this was to prevent the respondents from feeling any resolution emotions, such as relief and satisfaction, and to have the respondents concentrate on the hope, fear, and suspense emotions.

### *Measures*

After reading the story, participants were asked to indicate the degree to which they felt several emotions. The hope, fear, and suspense items developed in Studies 1 and 2 were used and were again embedded within 15 other emotion words taken from Richin’s (1997) CES (as was done in Study 2). Additionally, two versions were created for each of the 8 stories: one with the emotion words in a random order, and one with the emotion words in the reversed order.

Following the emotion items were the manipulation checks. The approach appraisal manipulation checks began with the statement, “For Chris and Donna, getting the house would be:” This statement was followed by three items, “fantastic,” “wonderful,” and “great,” each on a 7-point scale anchored with “A little bit,” and “Extremely.” The avoidance manipulation checks began with the statement “Now imagine the seller does NOT accept Chris and Donna’s offer. For Chris and Donna, the consequences of this outcome would be:” This statement was followed by five items, “inconvenient,” “disruptive,” “a pain,” “awful,” and “horrible.” These were rated with the same scale as was used for the approach manipulation. The frequency of probability change manipulation checks included two items: “Chris and Donna’s chances of closing

on the house kept fluctuating,” and “The likelihood that Chris and Donna would win the bid on the house kept changing.”

For exploratory purposes, *importance* was also measured with two 7-point Likert statements: “Chris and Donna have a lot at stake,” and “Chris and Donna have a lot riding on whether the seller accepts their offer.” As mentioned in Chapter III, some emotion researchers have proposed that an outcome’s importance can be viewed as the sum of a person’s approach and avoidance appraisals of an outcome (Ortony et al. 1988). Because it is possible that people have difficulty mentally separating the approach and avoidance appraisals, and that they simply combine these appraisals in a higher-order fashion, importance was measured as well.

Three covariates were measured as well: *prior mood*, *story plausibility* and *familiarity with purchasing a home*. Prior mood was assessed before the participants read the story using four 7-point items that have recently been employed in consumer research: Bad mood/good mood, irritable/pleased, sad/happy, and depressed/cheerful (Barone, Miniard, and Romeo 2000; Lee and Sternthal 1999). Story plausibility was assessed with the following two 7-point Likert-scale items developed for this study: “This story was believable” and “I can imagine an experience like this happening to me.” Familiarity with purchasing a home was measured with two 7-point scale items adopted from a scale purported to measure familiarity (Oliver and Bearden 1985): “In general, would you consider yourself familiar or unfamiliar with buying a house?” and “Would you consider yourself knowledgeable about buying a house?”

In addition, three demographic questions were included to assess respondents’

educational background, gender, and age.

### **Pretests**

The final story and manipulation checks presented above were based on three pretests. One objective of the pretests was to determine whether the manipulations had the intended effect on their associated manipulation checks and whether the manipulations and the interactions of the manipulations had any unintended effects. A second objective was to determine whether the scores on the multi-item manipulation check measures were reliable. Finally, the pretests were also intended to determine whether the respondents perceived the scenario as plausible.

#### ***Pretest 1***

Eighty undergraduate business students read one of the 8 possible manipulations (10 participants per cell). (The design was a full factorial 2 (approach appraisal) X 2 (avoidance appraisal) X 2 (frequency of probability change), resulting in 8 cells.) The approach appraisal measures began with the stem, "For Chris and Donna, getting the house would be:". The three items included "good," "desirable," and "wonderful." The 7-point scale was anchored with "not at all" and "extremely," with "somewhat" at the midpoint. The avoidance appraisal measures began with the stem, "For Chris and Donna, NOT getting the house would be:" The three items included "bad," "awful," and "horrible." The scale for the approach appraisal measures was also used for the avoidance appraisal measures. The frequency of probability change measures included the items "The story had a lot of twists and turns," and "The likelihood that Chris and Donna would win the bid on the house kept changing." Finally, the measures for story

plausibility included “The story was believable,” and “I can imagine an experience like this happening to someone.”

Varimax-rotated principal components analysis was performed on the 3 sets of manipulation check items: approach appraisal, avoidance appraisal, and frequency of probability change. Three factors emerged with eigenvalues greater than one, and the scree plot suggested three factors as well. The appropriate items loaded on the factors. The manipulation check reliabilities were also assessed. The Cronbach’s alpha for approach appraisal was .89, for avoidance appraisal was .85, and for frequency of probability change was .51.

Concerning scenario plausibility, a varimax-rotated principal components analysis was performed on the two items, resulting in one factor with an eigenvalue greater than 1, and the Cronbach’s alpha for the items was .61. Although somewhat low, Bagozzi and Yi (1988) suggest that reliabilities over .60 are acceptable. Further, these items do not represent the dependent variables. The mean of the composite variable (the mean of the two items) was 6.06 ( $SD = .87$ ), suggesting respondents thought the scenario was believable.

To assess whether the manipulations had the intended effects, three full-factorial 2 (approach) x 2 (avoidance) x 2 (frequency) ANOVAs were performed, one for each set of manipulation check measures (approach, avoidance, and frequency). The dependent variables for the approach and avoidance manipulation measures were composites variables (the mean of the approach/avoidance items). Because of the low reliability for the frequency of probability change items, only one item was used as the dependent

variable: “The likelihood that Chris and Donna would win the bid on the house kept changing.” The effect of the frequency change manipulation was stronger on this item than on the other item.

Table 5.1 presents the effect sizes (partial  $\omega^2$ , a variance-explained effect size suggested by Fern and Monroe 1996) and manipulation check reliabilities. All manipulations had a statistically significant effect. However, some unintended effects were found. The avoidance manipulation had an unintended statistically significant effect on the approach measure, although the effect of the avoidance manipulation was very small (partial  $\omega^2 = .084$ ;  $p < .05$ ;  $M_{\text{low}} = 4.69$ ,  $M_{\text{high}} = 5.22$ ) compared to the effect of the intended approach manipulation (partial  $\omega^2 = .706$ ;  $p < .001$ ;  $M_{\text{low}} = 3.63$ ,  $M_{\text{high}} = 6.28$ ), and thus was not viewed as problematic (Purdue and Summers 1986). More troublesome was the unintended effects on the avoidance manipulation check. Both the approach manipulation and the interaction between the approach and avoidance manipulation had an unintended effect on the avoidance check. In fact, the effect of the approach manipulation (partial  $\omega^2 = .139$ ;  $p < .01$ ;  $M_{\text{low}} = 4.69$ ,  $M_{\text{high}} = 5.22$ ) had a stronger effect than did the avoidance manipulation (partial  $\omega^2 = .105$ ;  $p < .01$ ;  $M_{\text{low}} = 3.08$ ,  $M_{\text{high}} = 3.98$ ).

### ***Pretest 2***

Two problems arose in Pretest 1: A low reliability for the frequency of probability change measures and the unintended effect of the approach manipulation on the avoidance measure. To increase the reliability for the frequency manipulation checks, a third item was included: “Chris and Donna’s chances of closing on the house kept fluctuating.” To remedy the problem of the unintended effect of the approach



**TABLE 5.1**  
**Pretest Results: Intended and Unintended Effects of Manipulations**  
**and Manipulation Check Reliabilities**

<b>Intended and Unintended Effects of Manipulations</b>	<b>Pretest 1</b>		<b>Pretest 2</b>		<b>Pretest 3</b>	
	<b>Partial <math>\omega^2</math></b>	<b><i>p</i>-value</b>	<b>Partial <math>\omega^2</math></b>	<b><i>p</i>-value</b>	<b>Partial <math>\omega^2</math></b>	<b><i>p</i>-value</b>
<i>Approach Appraisal as Dependent Variable</i>						
Approa	<b>0.706</b>	<b>&lt; .001</b>	<b>0.509</b>	<b>&lt; .001</b>	<b>0.447</b>	<b>&lt; .001</b>
Avoid	<b>0.084</b>	<b>0.010</b>	<b>0.072</b>	<b>0.022</b>	0.068	0.137
Freq	-0.003	0.900	0.001	1.000	n/a	n/a
Approa*Avoid	0.000	0.588	0.002	0.919	0.013	0.754
Approa*Freq	0.022	0.172	0.002	0.839	n/a	n/a
Freq*Avoid	0.003	0.479	0.002	0.839	n/a	n/a
Approa*Avoid*Freq	-0.004	0.967	0.002	0.839	n/a	n/a
<i>Avoidance Appraisal as Dependent Variable</i>						
Approa	<b>0.139</b>	<b>0.001</b>	0.041	0.103	0.014	0.750
Avoid	<b>0.105</b>	<b>0.006</b>	<b>0.110</b>	<b>0.005</b>	<b>0.344</b>	<b>&lt; .001</b>
Freq	0.009	0.677	0.007	0.751	n/a	n/a
Approa*Avoid	<b>0.101</b>	<b>0.007</b>	0.010	0.584	0.088	0.086
Approa*Freq	0.009	0.716	0.008	0.665	n/a	n/a
Freq*Avoid	0.020	0.324	0.009	0.624	n/a	n/a
Approa*Avoid*Freq	0.011	0.603	0.032	0.160	n/a	n/a
<i>Frequency of Probability Change as Dependent Variable</i>						
Approa	0.006	1.000	0.014	0.351	n/a	n/a
Avoid	0.035	0.144	0.005	0.603	n/a	n/a
Freq	<b>0.315</b>	<b>&lt; .001</b>	<b>0.281</b>	<b>&lt; .001</b>	n/a	n/a
Approa*Avoid	0.012	0.514	0.005	0.603	n/a	n/a
Approa*Freq	0.006	1.000	0.014	0.351	n/a	n/a
Freq*Avoid	0.007	0.870	0.043	0.080	n/a	n/a
Approa*Avoid*Freq	0.006	1.000	0.019	0.255	n/a	n/a
<b>Reliabilities of Manipulation Checks</b>						
Approach Appraisal		.89		.93		.94
Avoidance Appraisal		.85		.86		.90
Frequency of Probability Change		.51		.69		n/a

manipulation on the avoidance manipulation check measures, the avoidance measures were changed to be more specific and in line with the scenario. Specifically, the items were changed from the more global measures of “bad,” “awful,” and “horrible” to “inconvenient,” “disruptive,” and “a pain,” which are more associated with the consequences of not getting the bid on the house, moving twice and living in an apartment.

Eighty participants read one of the 8 possible scenarios. First, a varimax-rotated principal components analysis was performed on the manipulation check measures. Again, three factors emerged with eigenvalues greater than one, and the scree plot suggested three factors as well. The manipulation check reliabilities were also assessed. The Cronbach’s alpha for approach appraisal was .89, for avoidance appraisal was .86, and for frequency of probability change was .62. For the approach appraisal scale, after deleting one approach item (“desirable”), the alpha increased to .93. For the frequency of probability change scale, after deleting the item “The story had a lot of twists and turns,” the alpha increased to .69. Thus, these two items were dropped, and the remaining items were used to create the composite variables (the mean of the manipulation check items).

Again, three full-factorial 2 (approach) x 2 (avoidance) x 2 (frequency) ANOVAs were performed, one for each of the composite manipulation check measures (approach, avoidance, and frequency). The results are presented in Table 5.1. Again, all of the intended effects of the manipulations were significantly significant. While there was, again, an unintended statistically significant effect of the avoidance manipulation on the approach measure (partial  $\omega^2 = .072$ ;  $p < .05$ ;  $M_{\text{low}} = 4.88$ ,  $M_{\text{high}} = 5.45$ ), this effect was

negligible compared to the approach manipulation's effect (partial  $\omega^2 = .509$ ;  $p < .01$ ;  $M_{\text{low}} = 4.10$ ,  $M_{\text{high}} = 6.22$ ), which, according to Perdue and Summers (1986) is acceptable. Pretest 1's biggest problem of an unintended effect of the approach manipulation on the avoidance measure was solved; the effect (partial  $\omega^2 = .041$ ;  $p > .10$ ;  $M_{\text{low}} = 4.91$ ,  $M_{\text{high}} = 5.38$ ) was small and not statistically significant. However, the intended effect of the avoidance manipulation on the avoidance measure was somewhat small, with partial  $\omega^2 = .110$  ( $p < .01$ ;  $M_{\text{low}} = 4.73$ ,  $M_{\text{high}} = 5.57$ ). Compared to the intended effect of the approach manipulation (a partial  $\omega^2$  of .509), the intended effect of the avoidance manipulation was thought to be problematic. Thus, a third pretest was conducted to remedy this problem.

### ***Pretest 3***

The major objective of Pretest 3 was to increase the effect of the avoidance manipulation on the avoidance manipulation check items. Several measures were taken to accomplish this. First, the stem of the avoidance measure was changed to focus the respondents' attention on the consequences of the unfavorable outcome of not winning the bid. The wording in Pretest 2 was possibly focusing attention only on the *house*. The stem was changed from "For Chris and Donna, NOT getting the house would be:" to "Now imagine the seller does NOT accept Chris and Donna's offer. For Chris and Donna, the consequences of this outcome would be:". (The alternative outcome was presented first.) This change was thought to focus attention on the two moves and living in an apartment. An additional change was made to the scale descriptors. Previously the descriptors were "not at all," "somewhat," and "extremely." With these descriptors,

respondents seemed to be using only the right side of the scale (between “somewhat” and “extremely”), thereby restricting the range, which would attenuate the effect size (Fern and Monroe 1996). The scale descriptors were changed so that “a little bit” and “extremely” were the anchors for the approach and avoidance measures. Using “a little bit” rather than “not at all” as the low anchor was expected to encourage respondents to use the left side of the scale. Finally, to increase the avoidance manipulation’s effect, changes to the scenario were made. Additionally, the word “fantastic” replaced “desirable” for the approach measure.

Forty participants read one of 4 scenarios. Because the frequency of probability change manipulations and measures were not problematic, only approach and avoidance were manipulated in this pretest. First, a varimax-rotated principal components analysis was performed on the manipulation check measures. Two factors emerged with eigenvalues greater than one, and the scree plot also suggested two factors. The manipulation check reliabilities were also assessed. The Cronbach’s alpha for approach appraisal was .94, and for avoidance appraisal it was .90.

Two full-factorial ANOVA’s were run, one for each the approach and avoidance measures. Again, composite variables were computed for these by using the mean of the items. The results are presented in Table 5.1. The problem encountered in Pretest 2 of the small effect of the avoidance manipulation on the avoidance manipulation check was solved in Pretest 3, with partial  $\omega^2 = .344$  ( $p < .001$ ;  $M_{low} = 3.67$ ,  $M_{high} = 5.47$ ). Further, concerning the avoidance manipulation checks, the effects of the approach manipulation (partial  $\omega^2 = .014$ ;  $p > .10$ ;  $M_{low} = 4.50$ ,  $M_{high} = 4.63$ ) and the interaction of the approach

and avoidance manipulations (partial  $\omega^2 = .086$ ,  $p > .10$ ) on the avoidance measure were negligible, as desired. The effect of the approach manipulation on the approach measure was also desirable, with partial  $\omega^2 = .447$  ( $p < .001$ ;  $M_{\text{low}} = 3.80$ ,  $M_{\text{high}} = 5.98$ ). Further, concerning the approach manipulation checks, the effects of the avoidance manipulation (partial  $\omega^2 = .068$ ;  $p > .10$ ;  $M_{\text{low}} = 4.53$ ,  $M_{\text{high}} = 5.18$ ) and the interaction of the approach and avoidance manipulations (partial  $\omega^2 = .013$ ,  $p > .10$ ) on the approach measures were negligible.

The results of Pretests 2 and 3 support a conclusion that the manipulations of the independent variables are having their intended effect on their associated manipulation check measures. Further, no unintended effects were found. Finally, the reliabilities of the manipulation check measures were all acceptable.

Concerning scenario plausibility, a varimax-rotated principal components analysis was performed on the two items, resulting in one factor with an eigenvalue greater than 1, and the Cronbach's alpha for the items was .71. The mean of the composite variable (the mean of the two items) was 5.74 ( $SD = 1.09$ ), suggesting respondents thought the scenario was believable.

### **Main Study**

Data were collected from church groups members, who were asked to participate in return for \$3 or \$5. (Different groups were compensated different amounts.) Two hundred seventy-one people participated. Cases in which more than 5 variables were missing were discarded, resulting in a final sample size of 241.

### *Intended and Unintended Effects of Manipulations*

Three full-factorial 2(approach) X 2(avoidance) X 2(frequency) ANOVAs were run on each the mean of the approach, avoidance, and frequency of probability measures to assess the intended and unintended effects. Although this was explored later (using structural equation modeling in the main analysis), these ANOVA results are presented so that direct comparison can be made with the pretest, which were also analyzed using ANOVA.

Before analyzing the data with the ANOVAs, the Cronbach alphas were assessed, and all were above the recommended .70 (Nunnally and Bernstein 1994), as shown in Table 5.2. Additionally, a varimax-rotated principle components factor analysis of all manipulation checks resulted in a 3-factor solution (suggested by the eigenvalues and scree plot) in which all items loaded on the appropriate factors.

The results of the ANOVAs are also shown in Table 5.2. All of the manipulations had large and statistically significant effects on their intended manipulation check measures. The approach manipulation had a partial omega squared of .307 ( $p < .000$ ) on the approach measure ( $M_{low} = 4.14$ ,  $M_{high} = 6.06$ ); the avoidance manipulation had a partial omega squared of .222 ( $p < .000$ ) on the avoidance measure ( $M_{low} = 3.61$ ,  $M_{high} = 5.39$ ); and the frequency of probability change had a partial omega squared of .140 ( $p < .000$ ) on the frequency of probability change measure ( $M_{low} = 3.78$ ,  $M_{high} = 5.06$ ). Additionally, there were some statistically significant unintended effects. However, relative to the intended effects, these unintended effects appeared negligible. Specifically, concerning the approach measure, the avoidance manipulation (partial  $\omega^2 = .044$ ,

**TABLE 5.2**  
**Study 3: Intended and Unintended Effects of Manipulations**  
**and Manipulation Check Reliabilities Using ANOVA**

Independent Variables	Dependent Variables					
	<i>Approach Appraisal</i>		<i>Avoidance Appraisal</i>		<i>Frequency of Probability Change</i>	
	Partial $\omega^2$	<i>p</i> -value	Partial $\omega^2$	<i>p</i> -value	Partial $\omega^2$	<i>p</i> -value
Approa	<b>0.307</b>	< .001	0.004	0.550	<b>0.015</b>	<b>0.085</b>
Avoid	<b>0.044</b>	<b>0.002</b>	<b>0.222</b>	< .001	<b>0.033</b>	<b>0.007</b>
Freq	0.005	0.401	0.008	0.282	<b>0.140</b>	< .001
Approa*Avoid	0.006	0.370	0.003	0.919	0.010	0.202
Approa*Freq	0.003	0.628	0.009	0.214	0.005	0.484
Freq*Avoid	<b>0.018</b>	<b>0.056</b>	0.003	0.773	0.003	0.857
Approa*Avoid*Freq	0.003	0.702	0.009	0.232	0.003	0.858
<b>Reliabilities of Manipulation Checks</b>		.94		.90		.81

$p = .002$ ) and the interaction between the frequency and avoidance (partial  $\omega^2 = .018$ ,  $p = .056$ ) manipulations had a statistically significant effects, although these effects were small. Concerning the frequency of probability change measure, the approach and avoidance manipulations had relatively small but statistically significant effects (partial  $\omega^2 = .015$ ,  $p = .085$ , and partial  $\omega^2 = .033$ ,  $p = .007$ , respectively). According to Perdue and Summers (1986), the relative effect sizes of the manipulations should be the basis for judging the success of the experimental design, rather than the statistical significance of the effects. Thus, these results suggest that the manipulations were effective.

### ***Main Analysis***

To recap, this study had several objectives: (1) to test the proposed conceptualization of *suspense* as being composed of *hope* and *fear*, (2) to test whether an *approach appraisal* had an positive effect on *hope* (Proposition 1) and whether *avoidance appraisal* had an positive effect on *fear* (Proposition 2), and (3) to test whether *frequency of probability change* moderates the relationship between approach appraisal and hope (Proposition 3) and between avoidance appraisal and fear (Proposition 4).

The data were analyzed using structural equation modeling with LISREL 8.54. Bagozzi and Yi (1989) suggested that structural equation modeling can be used to analyze experimental data. One advantage of using SEM is that it corrects for measurement error in the measures and thus reduces the possibility of Type II error (Bagozzi and Yi 1989; Mackenzie 2001). A second advantage is that SEM can handle more complex relations among the dependent latent variable compared to MANOVA, which is limited to associations among the measures (Bagozzi and Yi 1989). Because three multi-item constructs (hope, fear, and suspense) constitute the dependent latent variables, and because relationships among them were hypothesized, SEM was the most appropriate technique to analyze the data collected in this study. Further, multigroup analysis was used to test the moderating effects of the frequency of probability change: the parameters representing the relationship between approach appraisal and hope and avoidance appraisal and fear should vary across the two groups representing the low and high frequency manipulations.



*Rationale for modeling suspense as a formative construct.* As previously mentioned, suspense is conceptualized as the overall anticipatory arousal associated with the hope and/or fear felt by a consumer assessing the likelihood of occurrence of an important and imminent consumption or acquisition event. Thus, this conceptualization assumes that suspense is comprised of hope and fear because this anticipatory arousal is due to the arousal of these two emotions. In terms of how suspense should be modeled, then, it is proposed that hope and fear are formative (causal) indicators of suspense, rather than the more common reflective (effect) indicators (Bollen 1989; Diamantopoulos 1999; Jarvis, Mackenzie, and Podsakoff 2003; MacCallum and Browne 1993). Reflective indicators are the most commonly used and assume that a latent variable causes variation in the measured variables/indicators. Formative indicators, on the other hand, are assumed to cause variation in the latent variable. Thus, the latent formative variables can be considered composite or index variables.

Jarvis et al. (2003) have suggested that formative indicators be used if the following four criteria are met. First, as opposed to reflective indicators in which the direction of causality is from the construct to the measures, for formative indicators, the direction of causality is from the measures to the construct. Because suspense is proposed to *consist* of hope and fear, modeling hope and fear as formative indicators of suspense is more appropriate. Second, Jarvis et al. noted that while the indicators of reflective constructs can be interchangeable, indicators of formative constructs are not interchangeable: dropping an indicator would change the conceptual meaning of the construct. This is consistent with the conceptual definition of suspense, which is proposed

to include both hope and fear: excluding either would change the proposed conceptual meaning of suspense. Third, Jarvis et al. noted that although indicators in a reflective model are expected to covary with each other, indicators in a formative model are not required to do so. With suspense, the overall felt hope and fear are not expected to covary because an approach appraisal of one outcome is believed to be independent of an avoidance appraisal of the alternative outcome. Finally, Jarvis et al. stated that a reflective construct requires that all of the construct's indicators have the same antecedents and consequences. The indicators of formative constructs, on the other hand, may have different antecedents and consequences. Such is the case with suspense, for which it is proposed that the hope component is affected by an approach appraisal and the fear component is affected by an avoidance appraisal. Furthermore, hope and fear are proposed to have different effects on attitude toward the anticipation period (although this was not be tested in this study). Thus, based on Jarvis et al.'s four criteria for distinguishing reflective constructs from formative constructs, suspense should be modeled as a formative construct with hope and fear as indicators.

Further, Jarvis et al. (2003) proposed that formative constructs may be second-order constructs, and that a second-order, formative construct may have first order constructs that are either formative or reflective. In the case of the model proposed here, suspense is thought to be a second-order formative construct, and its indicators are hope and fear, which are proposed to be first-order reflective constructs. However, Jarvis et al. noted that a measurement model of a formative construct will not be statistically identified unless one of the three following conditions are met: There are paths from the

construct (1) to at least two unrelated constructs with reflective indicators; (2) to two reflective indicators of that construct; or (3) to one latent construct with reflective indicators and to one reflective indicator of the construct. In the context of this study, the second condition (requiring at least two reflective indicators of the formative construct) was employed.

However, a disadvantage with modeling a formative construct in this manner is that the model could have different conceptual interpretations. Specifically, because this model is mathematically identical to a causal model with two exogenous constructs and one endogenous construct, hope and fear could be interpreted as antecedents to suspense rather than as formative indicators (Jarvis et al.). However, it is believed the conceptualization of suspense provided here is consistent with a formative construct, easily meeting all of Jarvis et al.'s four criteria, and, thus, should be interpreted as such. Thus, the model tested here included direct paths from *hope* and *fear* to *suspense*, all of which have reflective indicators. Although these specific relationships were not formally presented in propositions, the conceptualization of suspense as a formative construct composed of hope and fear suggested that the data be modeled as such.

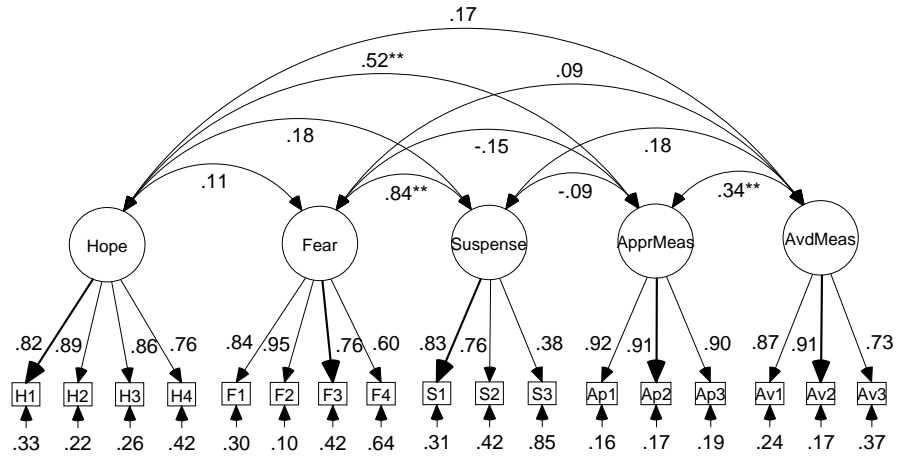
*Item aggregation.* Before proceeding with the analyses, the items were first aggregated whereby some of the items for the hope, fear, and suspense scales were combined to reduce the number of estimated parameters. This method, called the *partial disaggregation model* (Bagozzi and Edwards 1998), was used because the sample size was not an adequate size to produce reliable parameters. Further, this model generally provides a better fit and decreases measurement error (Bagozzi and Edwards 1998).

Specifically, the four new indicators for the hope scale were produced by taking the mean of the following four pairs of items: anticipatory excitement/positive expectation (H1), pleasant excitement/excitement (H2), enthusiastic/looking forward to (H3), and eager/positive anxiousness (H4). Three new indicators for the fear scale were created: afraid/fear (F1), frightened/panicked (F2), and petrified/terrified (F3). Finally, two new indicators were created for the suspense scale: tightness/tension (S1) and ill-at-ease/uneasy (S2). Dread (F4) and suspense (S3) were not combined. Items were paired based on high correlations among the items. Further, before these items were combined, exploratory factor analysis was performed on each scale to determine its unidimensionality. For the hope, fear, and suspense scales, eigenvalues, percentage of variance explained, and the scree plot provided strong evidence that each scale was unidimensional.

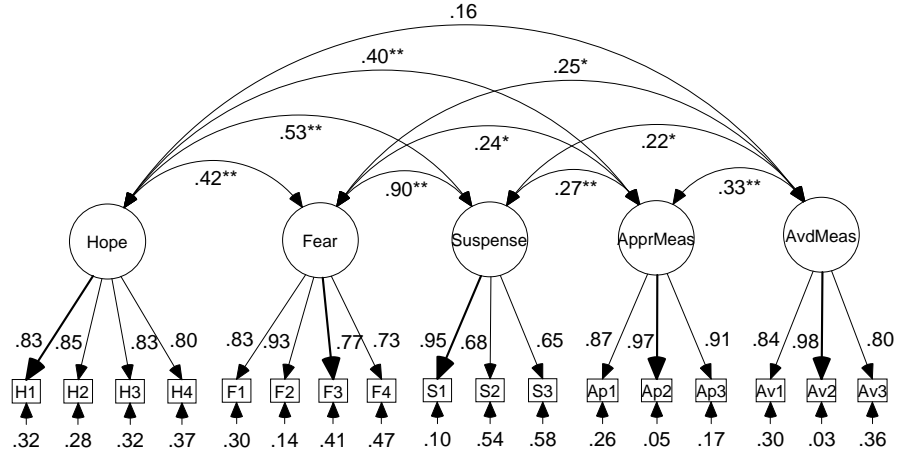
*Multigroup analyses: Assessing propositions 3 and 4.* Multigroup analysis was conducted on the two frequency of probability change groups (high,  $n=117$ ; low,  $n=124$ ). The measurement model across the two groups was first assessed, which was a 5-factor model that included hope, fear, and suspense factors, as well as factors representing the approach and avoidance manipulation checks. The model fit for both models estimated simultaneously was adequate, with a global chi-square value of 432.721 ( $df = 218$ ), a RMSEA of .085, a NNFI of .94, a CFI of .95, and SRMR of .069. The models for both the low and high frequency of probability change manipulations and the standardized parameters are depicted in Figure 5.1.

**FIGURE 5.1**  
**Study 3:**  
**Measurement Models of**  
**Low and High Frequency of Probability Change Groups**

**Low Frequency of Probability Change Model**



**High Frequency of Probability Change Model**



Note: Parameters are standardized. Bolded paths represent parameters fixed to 1.00. All measurement weights and error variances were statistically significant at  $p < .01$ . H1 is the mean of anticipatory excitement and positive expectation; H2 is the mean of pleasant excitement and excitement; H3 is the mean of enthusiastic and looking forward to; H4 is the mean of eager and positive anxiousness; F1 is the mean of afraid and fear; F2 is the mean of frightened and panicked; F3 is the mean of petrified and terrified; F4 is composed of dread; S1 is the mean of tightness and tension; S2 is the mean of ill-at-ease and uneasy; S3 is composed of suspense.

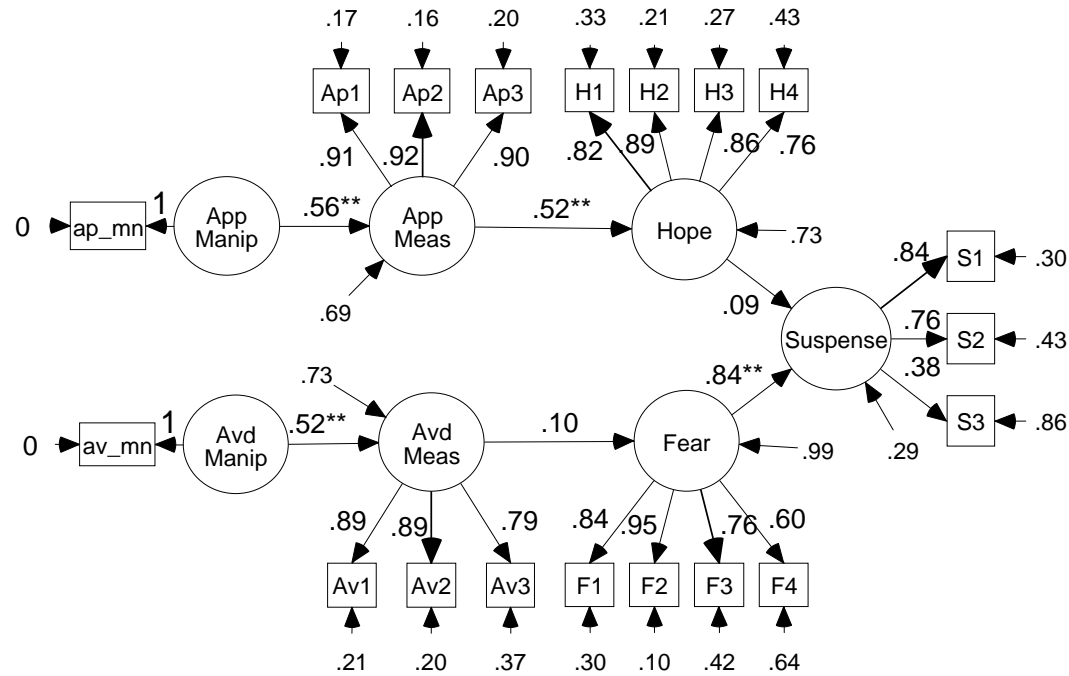
\* $p < .05$

\*\* $p < .01$

The structural model was then tested for the two groups. The low frequency of probability change group is depicted in Figure 5.2, and the high frequency of probability change group is depicted in Figure 5.3. In this structural model, the manipulations were modeled as exogenous variables leading to the manipulation check measures (Mackenzie 2001). The two levels of approach appraisal were represented by a dummy variable that is modeled as an exogenous latent variable ( $\xi_1$ ) with one indicator set to equal unity and a zero residual error term (Bagozzi and Yi 1989). The two levels of avoidance appraisal were modeled similarly, with  $\xi_2$  representing latent variable of the avoidance appraisal. The results of multigroup analysis in which no parameters were constrained to be equal across the groups suggested the data fit the model reasonably well:  $\chi^2 = 432.721$  ( $df = 218$ ), RMSEA = .085, NNFI = .94, CFI = .95, and SRMR = .07.

Again, this analysis was intended to assess whether *frequency of probability change* moderated the relationship between *approach appraisal* and *hope* (Proposition 3) and the relationship between *avoidance appraisal* and *fear* (Proposition 4). Specifically, the expectation was that the regression weights for these relationships would be different (or variant) across the groups (i.e., the weight for the high frequency group was expected to be larger than that of the low frequency groups for both the approach-hope and avoidance-fear relationships). As can be seen in Table 5.3, three models were compared, in which each model had increasing more parameters constrained to be equal across the groups. In comparing Model 3, in which both the structural and measurement weights were constrained to be equal across the groups, to Model 2, in which only the measurement weights were constrained to be equal, the chi-square difference is 5.81

**FIGURE 5.2**  
**Study 3:**  
**Structural Model for**  
**Low Frequency of Probability Change Group**

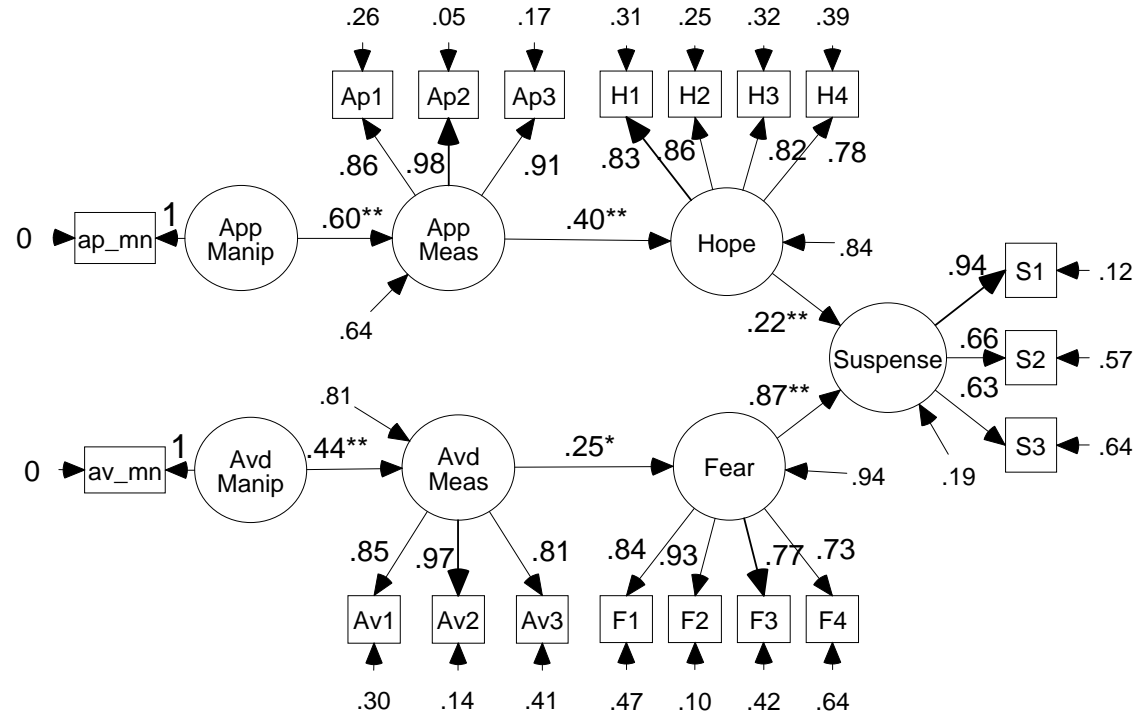


Note: Parameters are standardized. Bolded paths represent parameters fixed to 1.00. All measurement weights and error variances were statistically significant at  $p < .01$ . H1 is the mean of anticipatory excitement and positive expectation; H2 is the mean of pleasant excitement and excitement; H3 is the mean of enthusiastic and looking forward to; H4 is the mean of eager and positive anxiousness; F1 is the mean of afraid and fear; F2 is the mean of frightened and panicked; F3 is the mean of petrified and terrified; F4 is composed of dread; S1 is the mean of tightness and tension; S2 is the mean of ill-at-ease and uneasy; S3 is composed of suspense.

\* $p < .05$

\*\* $p < .01$

**FIGURE 5.3**  
**Study 3:**  
**Structural Model for**  
**High Frequency of Probability Change Group**



Note: Parameters are standardized. Bolded paths represent parameters fixed to 1.00. All measurement weights and error variances were statistically significant at  $p < .01$ . H1 is the mean of anticipatory excitement and positive expectation; H2 is the mean of pleasant excitement and excitement; H3 is the mean of enthusiastic and looking forward to; H4 is the mean of eager and positive anxiousness; F1 is the mean of afraid and fear; F2 is the mean of frightened and panicked; F3 is the mean of petrified and terrified; F4 is composed of dread; S1 is the mean of tightness and tension; S2 is the mean of ill-at-ease and uneasy; S3 is composed of suspense.

\* $p < .05$

\*\* $p < .01$



( $df = 6, p = .45$ ). This non-statistically significant chi-square difference suggests that the structural weights as a set are invariant (or equal) across the low and high frequency of probability change groups. These results provide evidence that frequency of probability change does not moderate the relationships between approach appraisal and hope and between avoidance appraisal and fear (or any other relationships in the model). Thus, Propositions 3 and 4 were not supported.

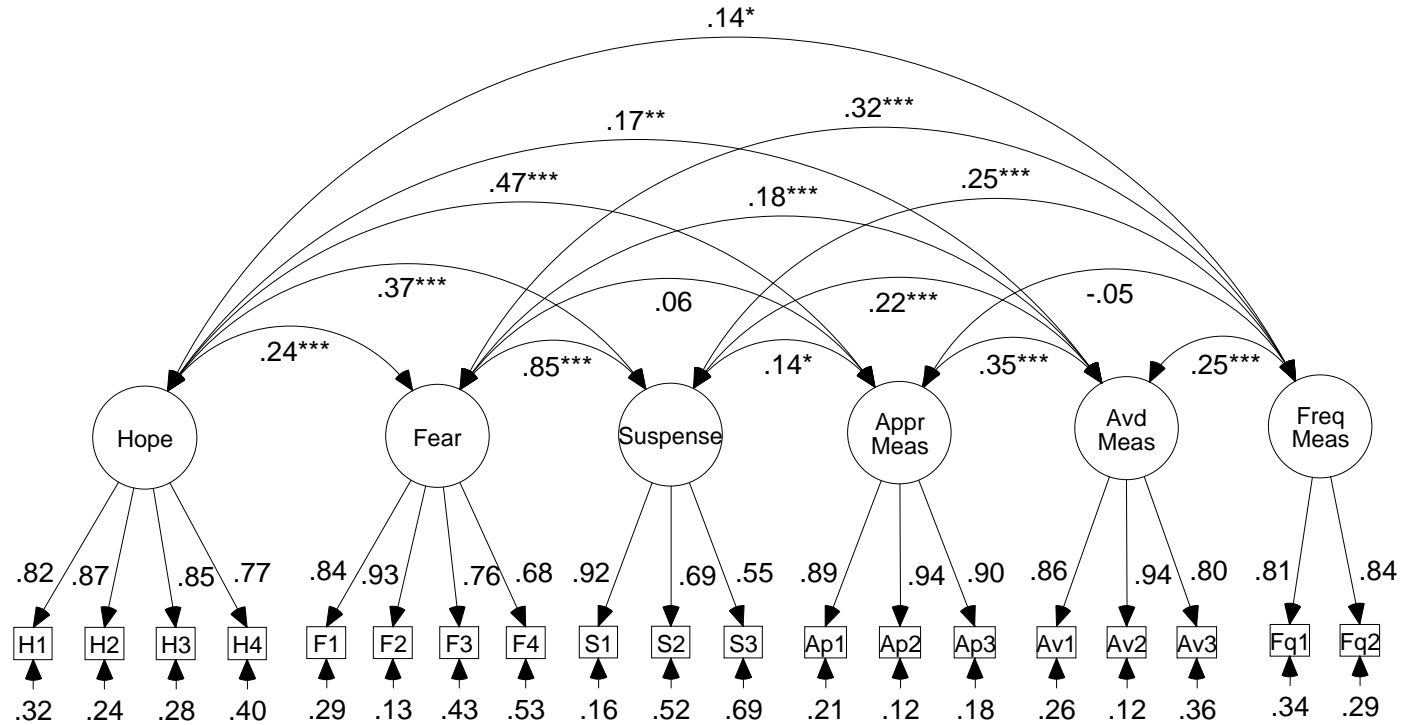
**TABLE 5.3**  
**Study 3: Multigroup Analysis Results for the**  
**Moderating Effect of Frequency of Probability Change—**  
**Chi-Square Difference Tests of Increasingly Constrained Models**

Parameters Constrained to Be Equal Across the Groups	$\chi^2$	$df$	$\chi^2$ Difference <sup>a</sup>	$df$ Difference <sup>a</sup>	$p$ -value
<i>Model 1:</i> Unconstrained	567.01	296			
<i>Model 2:</i> Measurement Weights	583.90	308	16.90	12	0.15
<i>Model 3:</i> Structural Weights Measurement Weights	589.71	314	5.81	6	0.45

<sup>a</sup> The chi-square/df differences reflects the difference between that chi-square/df on that with the chi-square or degrees of freedom on the above row.

*Single-group analysis: Assessing the conceptualization of suspense and propositions 1 and 2.* Because the model parameters were largely invariant (only five measurement error variances were invariant), the data were pooled (Byrne 1998) to test the remaining propositions. The measurement model of the pooled data was first

**FIGURE 5.4**  
**Study 3:**  
**Measurement Model for Pooled Data**



Note: Parameters are standardized. All measurement weights and error variances were statistically significant at  $p < .01$ . H1 is the mean of anticipatory excitement and positive expectation; H2 is the mean of pleasant excitement and excitement; H3 is the mean of enthusiastic and looking forward to; H4 is the mean of eager and positive anxiousness; F1 is the mean of afraid and fear; F2 is the mean of frightened and panicked; F3 is the mean of petrified and terrified; F4 is composed of dread; S1 is the mean of tightness and tension; S2 is the mean of ill-at-ease and uneasy; S3 is composed of suspense.

\* $p < .10$   
 \*\* $p < .05$   
 \*\*\* $p < .01$

**TABLE 5.4**  
**Study 3:**  
**Composite Reliabilities and Variance Extracted**  
**For the Measurement Model of the Pooled Data**

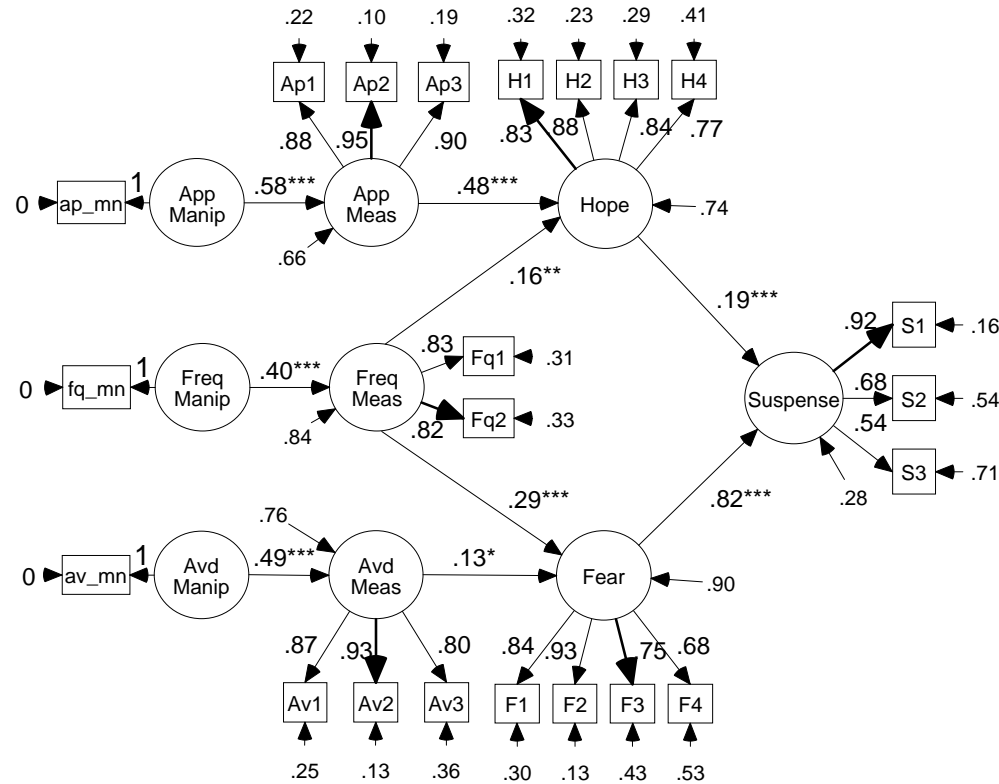
<b>Constructs</b>	<b>Composite Reliability</b>	<b>Variance Extracted</b>
<i>Hope</i>	.90	.86
<i>Fear</i>	.88	.83
<i>Suspense</i>	.77	.66
<i>Approach Appraisal</i>	.94	.92
<i>Avoidance Appraisal</i>	.90	.87
<i>Frequency of Probability Change</i>	.81	.75

assessed. The frequency of probability change manipulation check measure was included in this model. The variances of the factors were fixed to 1.0. The model, with its standardized parameters, is depicted in Figure 5.4. The fit indices suggest the model fit well:  $\chi^2 = 298.91$  ( $df = 137$ ), RMSEA = .068, NNFI = .95, CFI = .96, and SRMR = .067. Further, the model showed convergent and discriminant validity. Concerning convergent validity, all of the measurement weights were statistically significant at  $p < .001$ . Further, the composite reliabilities and the variances extracted for each of the constructs suggest convergent validity, as shown in Table 5.4. The composite reliabilities for all constructs were greater than the recommended values of .60 (Bagozzi and Yi 1988) and .70 (Hair et al. 1998), ranging from .77 to .94. As suggested by Fornell and Larcker (1981), the variance extracted for each of the constructs exceeded .50, ranging from .66 to .92.

Discriminant validity was assessed using Anderson and Gerbing's (1988) two suggested methods. First, discriminant validity between each pair of constructs was assessed using the intervals of  $\pm 2$  standard errors around the estimated parameter correlation. None of the intervals of the factor correlations ( $\Phi$ ) included 1.0, which suggests discriminant validity. The most troublesome construct pair was fear/suspense, with a correlation of .85, and a confidence interval of .79 to .91. A second test used to determine discriminant validity between two constructs is to constrain their correlation to 1.0, as explained in Chapter IV. This test was performed on all pairs of constructs. All the chi-square difference tests comparing unconstrained and constrained models were statistically significant, providing further evidence of discriminant validity for each of the construct pairs. Concerning the most potentially problematic construct pair of fear/suspense, the chi-square difference was 35.16 ( $df = 1$ ), which is statistically significant at  $p < .001$ .

The structural model was then assessed. For exploratory purposes, the frequency of probability change manipulation and manipulation checks were included in the model, and they were modeled in a manner similar to the approach and avoidance manipulations and manipulation checks. The frequency of probability change manipulation and manipulation checks were included to assess whether frequency of probability change had a direct effect on hope and fear, rather than an indirect (moderating) effect as originally proposed. This model, depicted in Figure 5.5, had a  $\chi^2$  of 426.11 ( $df = 203$ ), and the fit indices suggested the data fit the model well: RMSEA = .065, NNFI = .95, CFI = .95, and SRMR = .11. Further, the remaining proposed hypotheses were supported

**FIGURE 5.5**  
**Study 3:**  
**Structural Model for Pooled Data**



Note: Parameters are standardized. Bolded paths represent parameters fixed to 1.00. All measurement weights and error variances were statistically significant at  $p < .01$ . H1 is the mean of anticipatory excitement and positive expectation; H2 is the mean of pleasant excitement and excitement; H3 is the mean of enthusiastic and looking forward to; H4 is the mean of eager and positive anxiousness; F1 is the mean of afraid and fear; F2 is the mean of frightened and panicked; F3 is the mean of petrified and terrified; F4 is composed of dread; S1 is the mean of tightness and tension; S2 is the mean of ill-at-ease and uneasy; S3 is composed of suspense.  
 $*p < .10$ ,  $**p < .05$ ,  $***p < .01$

as well. As suggested by the results of the previously presented ANOVA analyses of the manipulation checks, all of the manipulations had strong and statistically significant effects on the intended manipulation checks: for approach manipulation on approach measure,  $\gamma = .58$  ( $p < .001$ ), for avoidance manipulation on avoidance measure,  $\gamma = .49$  ( $p < .001$ ), and for frequency of probability change on frequency manipulation,  $\gamma = .40$  ( $p < .001$ ). Additionally, both Propositions 1 and 2 were supported: the approach appraisal measure had a positive effect on hope ( $\beta = .48$ ,  $p < .001$ ), and the avoidance appraisal measure had a positive effect on fear ( $\beta = .13$ ,  $p < .10$ ). Further, the proposed conceptualization of suspense was supported, because both hope and fear had a positive effect on suspense (hope,  $\beta = .18$ ,  $p < .001$ ; fear,  $\beta = .82$ ,  $p < .001$ ).

For exploratory purposes, paths from frequency of probability change to both hope and fear were tested. Although originally proposed to have a moderating effect, this variable may have a direct effect on hope and fear. It is possible that change in the probability will be perceived as novel and will thus increase a one's arousal. This is based on Berlyne's (1971) proposition that novel stimuli increase arousal. This rationale is also similar to Ariely's (1998) explanation of his pain research. He suggested that when in a constant state of pain, there is decreased sensitivity to that pain during the experience due to adaptation (Helson 1965). Thus, this increase in arousal may subsequently have a positive influence on the hope and fear emotions. (Again, a major component of emotion is arousal.) The results suggested that frequency of probability change has a direct effect on hope and fear. The standardized beta coefficient from frequency of probability change to hope is  $.16$  ( $p < .05$ ), and the standardized beta coefficient from frequency of

probability change to fear is .29 ( $p < .001$ ).

These relationships were also tested using chi-square difference tests (Bagozzi and Yi 1988). Specifically, the model including all the paths (an unconstrained model) was compared to models in which each structural path was constrained to zero. If the chi-square difference between the unconstrained and constrained model is statistically significant, that suggests that the hypothesized path is supported. As shown in Table 5.5, the chi-square difference for each of the structural paths was statistically significant, providing evidence that each of proposed relationships were supported, as well as the non-hypothesized relationships between frequency of probability change and hope and between frequency and fear.

**TABLE 5.5**  
**Study 3:**  
**Tests of Structural Paths for Pooled Data**

<b>Structural Path</b>	<b><math>\chi^2</math> Difference</b>
AppManip $\rightarrow$ AppMeas ( $\gamma_{11}$ )	93.132***
FreqManip $\rightarrow$ FreqMeas ( $\gamma_{22}$ )	33.095***
AvdManip $\rightarrow$ AvdMeas ( $\gamma_{33}$ )	57.448***
AppMeas $\rightarrow$ Hope ( $\beta_{41}$ )	53.797***
AvdMeas $\rightarrow$ Fear ( $\beta_{53}$ )	3.684*
FreqMeas $\rightarrow$ Hope ( $\beta_{42}$ )	5.779**
FreqMeas $\rightarrow$ Fear ( $\beta_{52}$ )	15.706***
Hope $\rightarrow$ Suspense ( $\beta_{64}$ )	13.981***
Fear $\rightarrow$ Suspense ( $\beta_{65}$ )	183.39***

\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .001$

*Assessment of covariates.* The covariates of story plausibility and familiarity were assessed to determine if these variables had any effect on the endogenous variables and to determine if these effects attenuated or strengthened the relationships in the model. (A wording problem in the questionnaire instructions apparently caused several respondents to skip several prior mood measures. Thus, those measures, which were intended to be covariates, were not used in any analyses.) The coefficient alphas for the plausibility (2 items) and familiarity (2 items) scales were first assessed: for plausibility, Cronbach's  $\alpha = .66$ , and for familiarity, Cronbach's  $\alpha = .76$ . Although the scale for plausibility was lower than recommended by Nunnally and Bernstein (1994), because this is not a fundamental construct, this value is permissible. The variables that these covariates may impact were not specified a priori. Thus, the effects of the covariates on all six endogenous variables were assessed separately. The covariate was added to the model, then its effect on each endogenous variable was assessed separately as well. Several relationships were significant. Most notable was plausibility's effect on the avoidance measure, with a beta coefficient of .33 ( $p < .001$ ). However, the effects the covariates had very little impact on the other relationships in the model: The relationships were neither attenuated nor strengthened. For instance, the most drastic attenuation was for the relationship between avoidance manipulation and the avoidance measure: the gamma coefficient dropped from .49 to .44 when a path from plausibility to the avoidance measure was included in the model. Because the inclusion of the covariates did not considerably attenuate or strengthen any relationships in the model, for the sake of parsimony they were not included.



*Assessment of unintended effects using SEM.* Additional non-hypothesized paths were also explored within the SEM model. The unintended effects of the manipulations on the manipulation check measures and on hope, fear, and suspense were examined, as suggested by Mackenzie (2001). Each path was tested separately by comparing the model with the new path with the baseline model in Figure 5.4. Only two paths decreased the chi-square value significantly. When a path from the avoidance manipulation to the approach measure was added, the chi-square difference was 9.52 ( $p < .01$ ,  $df=1$ ), and the beta coefficient for this path was .17 ( $p < .01$ ). Also, when a path from the avoidance manipulation to the frequency of probability measure was added to the baseline model, the chi-square difference was 6.52 ( $p < .05$ ,  $df=1$ ), and the beta coefficient for this path was .17 ( $p < .05$ ). These unintended effects are also consistent with the ANOVA results: the avoidance manipulation had unintended effects on both the approach and the frequency of probability measures. Although these unintended effects are statistically significant in these SEM results, compared to the intended effects these effects were relatively small, and it appears that most of the variation in the manipulation check measures were due to the associated manipulations.

When assessing the non-hypothesized effects of the manipulation checks, several relationships were found that produced a statistically significant decrease in the chi-square value. Specifically, the path from the avoidance measure to the approach measure and the path in the opposite direction both caused a drop in the chi-square value. This decrease, however, was likely related to the unintended effect of the avoidance manipulation on the approach measure. Similarly, the path from the avoidance measure to

the frequency measure and the path in the opposite direction both caused a drop in the chi-square value. These paths were likely associated with the unintended effect of the avoidance manipulation on the frequency measure.

*Generalizability of results.* Because the effects of frequency of probability change on hope and fear were not originally proposed, there is the possibility that these effects were spurious. Thus, the data were randomly split to determine if these non-hypothesized parameters, as well as other parameters were invariant across the two random groups using multigroup analysis (Byrne 1998). The chi-square for this model was 665.650 ( $df = 406$ ) ( $n_{\text{group 1}} = 119$ ,  $n_{\text{group 2}} = 122$ ). Although the SRMR was not desirable, at .127, the other fit statistics suggested a good fit: RMSEA = .0648, NNFI = .94, and CFI = .947. Invariance tests concluded that the models were, for the most part, invariant. Table 5.6 shows the chi-square differences and their associated  $p$ -values for models with increasingly constrained parameters. In comparing Model 2 to Model 1, which tests the invariance of the measurement weights, the statistically significant chi-square difference of 20.02 ( $df = 13$ ,  $p = .09$ ) provided evidence that one or more of the measurement weights is invariant. Testing each of the measurement weights separately showed that one measurement weight, the third approach appraisal measure, was invariant across the two randomly split groups. In comparing Model 3 to Model 2, which tested the invariance of the structural weights, the chi-square difference of 7.35 ( $df = 9$ ,  $p = .60$ ) was evidence that the structural residuals were invariant.

Despite the conclusion that structural parameters were invariant across the groups, for one of the randomly split groups, the frequency to hope relationship was not

**TABLE 5.6**  
**Study 3: Multigroup Analysis Results to Assess**  
**the Moderating Effect of Two Randomly Split Groups—**  
**Chi-Square Difference Tests of Increasingly Constrained Models**

Parameters Constrained to Be Equal Across the Groups	$\chi^2$	<i>df</i>	$\chi^2$ Difference <sup>a</sup>	<i>df</i> Difference <sup>a</sup>	<i>p</i> -value
<i>Model 1:</i> Unconstrained	665.65	406			
<i>Model 2:</i> Measurement Weights	685.68	419	20.03	13	0.09
<i>Model 3:</i> Structural Weights Measurement Weights	693.03	428	7.35	9	0.60

<sup>a</sup> The chi-square/*df* differences reflects the difference between that chi-square/*df* on that with the chi-square or degrees of freedom on the above row.

statistically significant ( $.11, p > .10$ ), nor was the relationship from the avoidance measure to fear ( $.06, p > .10$ ). These non-significant effects suggest that these relationships may not be tenable, although a lack of power may also explain these non-significant effects, as well.

In sum, the preceding results reported provide support for four of the six hypothesized relationships. Specifically, the proposed conceptualization of suspense—that *hope* and *fear* comprise *suspense*—was supported, as well as the effect of the *approach appraisal* on *hope*, and the effect of the *avoidance appraisal* on *fear* (Propositions 1 and 2). However, the moderating effect of *frequency of probability change* was not supported (Propositions 3 and 4).

### *Ancillary Analyses*

The following ancillary analyses address two issues. First, analyses are presented that focus on whether emotions other than hope and fear have an impact on suspense. Second, the suspense scale and the validity of its scores are explored.

*Other emotions' impact on suspense.* As presented earlier, suspense has been conceptualized to be a formative construct composed of the emotions of hope and fear. One criteria of modeling a construct as formative is that the content of the construct be correctly specified. In other words, one must be careful not to exclude a relevant facet of the construct domain (Diamantopoulos and Winklhofer 2001). As noted by Nunnally and Bernstein (1994), “the breadth of definition is extremely important to causal [formative] indicators” (p. 484). Thus, the conceptualization of suspense as being comprised of hope and fear would be incorrect if some other variable also comprised suspense.

Thus, further support of the proposed conceptualization of suspense would be to consider whether other emotions comprise suspense. In order to test this, the 15 emotion words from Richin's Consumption Emotion Set (1997) were used. Specifically, in separate analyses, each word was modeled as a one-item exogenous construct with a path leading from that factor to the suspense factor. As shown in Table 5.7, 10 out of 15 emotion words had a statistically significant gamma coefficient. However, 9 of these 10 words have a statistically significant *negative* relationship with suspense: guilty, jealous, happy, calm, angry, proud, contented, surprised, and sexy. Thus, these emotions take away rather from than “form” suspense. Although recent articles on formative indicators do not explicitly state that formative indicators should have a positive relationship with

the formative construct (Diamantopoulos 1999; Jarvis et al. 2003), the notion that the indicators should “form” rather than “take away” from the construct is reasonable.

**TABLE 5.7**  
**Study 3: Effects of Other Emotions on Suspense**

<b>Non-Hypothesized Emotions</b>	<b>Standardized Gamma Coefficient</b>	<b>Critical Ratio</b>
Warm hearted	-.05	-1.41
Relieved	.02	.41
Depressed	-.02	-.35
<b>Unfulfilled</b>	<b>.17***</b>	<b>3.65</b>
<b>Guilty</b>	<b>-.10**</b>	<b>-2.39</b>
<b>Jealous</b>	<b>-.14***</b>	<b>-3.47</b>
<b>Happy</b>	<b>-.22***</b>	<b>-5.16</b>
<b>Calm</b>	<b>-.21***</b>	<b>-4.73</b>
Lonely	-.02	-.40
<b>Angry</b>	<b>.09*</b>	<b>1.87</b>
<b>Proud</b>	<b>-.14***</b>	<b>-3.29</b>
Embarrassed	-.04	-.85
<b>Contented</b>	<b>-.17***</b>	<b>-3.75</b>
<b>Surprised</b>	<b>-.11**</b>	<b>-2.50</b>
<b>Sexy</b>	<b>-.17***</b>	<b>-4.12</b>

Note: Bolded items represent those having a statistically significant gamma coefficient.

\* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$

However, one emotion had a positive impact on suspense: the relationship between unfulfilled and the suspense factor had a statistically significant and positive gamma coefficient ( $\gamma = .17, p < .001$ ). This emotion word along with the word discontent (which was not measured) form one of the 13 consumption emotion groups proposed by

Richins (1997). Thus, it is possible that the proposed conceptualization was misspecified and should include unfulfilled/discontent as well. On the other hand, the emotion unfulfilled/discontent (or an emotion of a similar nature) is not an emotion specified by cognitive appraisal theorists (Ortony et al. 1988; Roseman et al. 1990; Smith and Ellsworth 1985) nor by earlier emotion researchers (Izard 1977; Plutchik 1980). Although one purpose of Richins' research was to identify consumption emotions that may have been overlooked in the construction of other emotion scales, the research, for the most part, was empirically driven. Thus, little theory is provided on what causes unfulfillment/discontent and how this emotion is different from other emotions in the CES scale (some of which have similar content to hope and fear as defined in this dissertation).

*Validity of suspense scale scores.* The analyses of the pooled data support the conceptualization that hope and fear are components of suspense as evidenced by the positive and statistically significant relationships from both hope and fear to suspense. However, the path from hope to suspense ( $\beta = .18$ ) is relatively small in comparison to the path from fear to suspense ( $\beta = .82$ ). Although the relative weights of the paths were not formally hypothesized, the expectation was that these paths would be relatively equal to one another. The suspense item had a relatively low pattern coefficient across the SEM studies. In Study 3, the suspense pattern coefficients were .36 (all stories), .44 (hopeful story), .64 (fearful story), and .51 (ambivalent story), and in Study 4, the suspense pattern coefficient was .54. One possible issue is that the factor labeled suspense is not a valid one. If one assumes the rationale that the word suspense is the most valid measure for the

construct suspense, the notion that the suspense scale is measuring suspense could be in question: one would expect the word suspense to have a large, if not the largest, pattern coefficient. Additional evidence that the suspense item is operating differently from the other four items measuring the suspense construct is the modification indices (of the pooled data model), as depicted in Table 5.8. Inspection of the 10 largest modification indices for the regression paths indicates a pattern (bolded paths): Paths from 3 of the hope items to the suspense item would significantly increase the fit of the model, as well as a path from the hope factor to the suspense item.

**TABLE 5.8**  
**Study 3: 10 Largest Modification Indices (Structural Paths)**  
**For the Analysis of the Pooled Data<sup>a</sup>**

Path	Modification Index
AvdMeas → AppMeas	27.630
S1 → H4	24.018
Suspense <sub>Factor</sub> → H4	20.948
Suspense <sub>Item</sub> → Av1	19.111
<b>Hope → Suspense<sub>Item</sub></b>	<b>18.990</b>
<b>H4 → Suspense<sub>Item</sub></b>	<b>18.966</b>
<b>H1 → Suspense<sub>Item</sub></b>	<b>17.880</b>
<b>H3 → Suspense<sub>Item</sub></b>	<b>16.071</b>
AvdMeas → Suspense <sub>Item</sub>	15.635
AppMeas → Suspense <sub>Item</sub>	14.810

<sup>a</sup>Suspense<sub>Item</sub> is the same as S3 in the SEM models depicted in the figures.

Due to these issues, an analysis was run in which the 3-item suspense factor was replaced with a 1-item suspense factor with the word suspense as the sole item. This model fit well. The chi-square for this model was 319.01 ( $df = 165$ ), the SRMR was .11, RMSEA was .063, NNFI was .96, and CFI was .96. Further, the standardized beta coefficients from hope and from fear to suspense were relatively equal: the hope to suspense path was .38 ( $p < .001$ ), and the fear to suspense path was .31 ( $p < .001$ ). Additionally, the hope to suspense path increased by .19, while the fear to suspense path decreased by .51. The other paths in the model changed only slightly.

### Summary

The objective of Study 3 was to test several relationships among the constructs presented in the conceptual model of suspense. First, this study tested the proposed conceptualization of suspense—that *hope* and *fear* are components of *suspense*. Second, this study also tested Propositions 1 and 2—that an *approach appraisal* causes *hope* and an *avoidance appraisal* causes *fear*. Additionally, Propositions 3 and 4—that *frequency of probability change* moderates the approach-hope and avoidance-fear relationships—was tested.

The results of Study 3 provide evidence that suspense is composed of hope and fear: the hope-suspense and fear-suspense paths were both positive and statistically significant. The fear-to-suspense relationship, however, was much larger than was the hope-to-suspense relationship. This suggests that fear is a much larger contributor to suspense than is hope. However, there was an expectation (thought not explicitly stated) that these relationships would be relatively equal. One issue may be that the suspense



scale does not yield valid scores, particularly because the suspense item (an item one would expect to have a strong, if not the strongest, relationship with the construct) did not load highly on the suspense factor. An analysis using a one-item suspense factor, in which the suspense item was the sole indicator, found that the hope-suspense and fear-suspense relationships were relatively equal. Future research should be done to explore the validity of the scores on the suspense scale.

Study 3's results also support Propositions 1 and 2—that an *approach appraisal* causes *hope* and an *avoidance appraisal* causes *fear*. However, it should be pointed out the avoidance appraisal to fear relationship was relatively low. Further, when the sample was randomly split in half to determine if the parameters were stable across the two groups, the avoidance appraisal-fear relationship was not significant in one of the groups, although this parameter was invariant across the two randomly split groups. Low power may have resulted in a non-significant relationship. However, this relationship will have to be replicated in future studies to further provide further support.

Propositions 3 and 4—that *frequency of probability change* moderates the approach-hope and avoidance-fear relationships—was not supported. The results of the multigroup analysis show that the approach-hope and avoidance-fear relationships did not vary across the models for the low and high frequency of probability change groups. The possibility that frequency of probability change causes a direct effect on hope and on fear was explored and both relationships were statistically significant. Further, these parameters were invariant when the groups were randomly split into two groups. Even though these parameters were invariant, however, the frequency of probability change-

hope relationship was not statistically significant in one of the groups. Again, low power may have resulted in this non-significant finding, and future research should attempt to replicate this relationship.

Finally, whether several emotions other than hope and fear had an impact on suspense was tested. Because suspense is conceptualized to be a formative construct, it is important to properly determine the domain of the construct: excluding a particular facet of the construct would constitute misspecification. Thus, the expectation was that none of these other emotions would have a positive impact on suspense. Although there were several words that were negatively related to suspense (which would suggest that these emotions do not “form” suspense), one emotion—unfulfilled—was positively related to suspense. In the next and final chapter, a discussion of these results will be presented, as well as avenues for future research.

## CHAPTER VI

### DISCUSSION AND CONCLUSION

Based on the literature in film, communication, and emotion, this dissertation presented a conceptual model delineating suspense, its antecedents, and its consequences (Figure 3.1). In this dissertation, a portion of this model was tested. Specifically, in Phase I of the empirical testing, scales were developed to measure *suspense*, as well as two constructs proposed to be composed of suspense—*hope* and *fear*. In Phase II of the empirical testing, an experiment was conducted to test a subset of the antecedents of suspense. Specifically, *approach appraisal* was expected to positively influence *hope*, and *avoidance appraisal* was expected to positively influence *fear*. Further, *frequency of probability change* was expected to moderate the approach-hope and avoidance-fear relationships.

The objectives of this chapter are, first, to discuss the empirical findings of this dissertation. Second, this chapter will discuss how this model of suspense contributes to the suspense, the emotion, and the marketing literatures. Third, a discussion of the managerial implications of this model will be presented. Finally, the limitations of this research, as well as avenues for future research will be discussed.

#### **Summary and Discussion of Empirical Findings**

The following section summarizes and discusses the empirical findings of this dissertation. Phase I of the empirical testing, the scale development studies, will be presented, followed by Phase II of the empirical testing, in which an experiment was conducted to assess selected antecedents of suspense.

### ***Phase I of Empirical Testing—Scale Development***

The purpose of Phase I of the empirical testing, which include Studies 1 and 2 and which are reported in Chapter IV, was to develop scales for hope, fear, and suspense that produce reliable scores. This objective was accomplished. The hope scale consisted of the words *anticipatory excitement, eager, enthusiastic, excitement, looking forward to, positive anxiousness, pleasant excitement, and positive expectation*; the fear scale consisted of the words *afraid, dread, fear, frightened, panicked, petrified, and terrified*; and the suspense scale consisted of the words *ill-at-ease, suspense, tension, tightness, and uneasy*.

These scales were based on exploratory and confirmatory factor analyses. In Study 1, O-technique factor analysis was used. Results showed that all items had high factor loadings and that the scales had sufficient reliabilities. In Study 2, the varimax-rotated principal components factor analyses extracted 3 factors for the entire sample, as well as for the sub samples of the hopeful, fearful, and ambivalent suspense stories. Further, the items consisting of these three factors (hope, fear, and suspense) loaded in the theoretically expected manner. Further support for the scales was found with the confirmatory factor analysis results. The scales showed convergent and discriminant validity for the entire sample, as well as for the hopeful, fearful, and ambivalent suspense story sub samples.

While the results generally support that reliable scales were developed, the word/item suspense, one of the five indicators on the suspense scale, did not perform adequately in all of the studies. Specifically, in Study 2, in which participants read one of

three stories (hopeful, fearful, and ambivalent), the pattern coefficient (also commonly referred to as factor loading) for the suspense item was less than the recommended criteria for the hopeful story and when all the stories were combined. This issue will be again discussed when presenting the results of Phase II.

### ***Phase II of Empirical Testing—Experiment***

The objective of Phase II, which included Study 3, was to test several relationships among the constructs presented in the conceptual model of suspense. First, this study tested the proposed conceptualization of suspense—that *hope* and *fear* are components of *suspense*. Second, this study also tested Propositions 1 and 2—that *approach appraisal* causes *hope* and *avoidance appraisal* causes *fear*. Additionally, Propositions 3 and 4—that *frequency of probability change* moderates the approach-hope and avoidance-fear relationships—was tested.

*Hope and fear as components of suspense.* The results of Study 3 provide evidence that suspense is composed of hope and fear: the hope-suspense and fear-suspense paths were both positive and statistically significant. The fear-to-suspense path, however, was much larger than the hope-to-suspense path. This suggests that fear is a much larger contributor to suspense than is hope. This finding is consistent with Zillmann's (1996) contention that suspense, at least in film, "thrives on fear" (p. 203).

While that finding is consistent with Zillmann's assertion, others have argued that suspense is a combination of hope and fear (Alwitt 2002; Ortony, Clore, and Collins 1988; Sternberg 1978) and have implied that these emotions equally contribute to suspense. Thus, there was an expectation (thought not explicitly stated in the

conceptualization) that these relationships would be relatively equal. One issue may be that the suspense scale is not a valid one, particularly because the suspense item (an item one would expect to have a strong, if not the strongest, relationship with the construct) does not load highly on the suspense factor. This was the case in Study 2 (for the hopeful stories and when the hopeful, fearful, and ambivalent stories were combined) and in Study 3. An analysis using a one-item suspense factor, in which the suspense item is the sole indicator, found that the hope-suspense and fear-suspense relationships were relatively equal.

Thus, future research should explore the validity the suspense scale. Replications of the relationships of hope and fear with suspense should be explored, perhaps across types of suspenseful situations. For instance, the house-buying scenario used in Study 3 was a case of ambivalent suspense (hope and fear were both in operation). Testing these relationships in a hopeful scenario or a fearful suspense scenario would be useful. It is possible that the relationships from hope and fear to suspense operate differently in different scenarios. While different scenarios were used in Study 2 (a purely measurement study), it may be necessary to perform an experiment in which the approach or avoidance appraisals are manipulated (in addition to measuring hope, fear, and suspense). Doing so would produce more variation in the hope or fear constructs.

Additionally, using the suspense construct within a more complete nomological network would also provide stronger evidence for the validity of the suspense scale. In the conceptual model proposed in Chapter III, suspense is proposed to have a positive effect on attitude toward the anticipation period, independent of the effects of hope (a

positive effect is proposed) and fear (a negative effect is proposed) on attitude toward the anticipation period. Evidence of these relationships would provide further support for the suspense construct.

Further, a structural model that includes a path from suspense to another construct with two reflective indicators can be tested *without direct measurement of suspense*.

According to Jarvis et al. (2003), if a structural model includes a formative construct and that formative construct has a path leading to a construct with two or more reflective indicators, the model can be properly identified. If no outcome constructs are included in the model, the formative construct must include at least two of its own reflective indicators. Thus, if a structural model included hope and fear as antecedents/components of suspense *and* included attitude toward anticipation period (measured with at least two reflective indicators) as consequence of suspense, the suspense factor would not require reflective indicators (i.e., direct measurement of suspense with reflective indicators). This model could be compared to a model that includes a suspense construct with reflective indicators. If the relationship between suspense and attitude toward anticipation were similar across the two models, this would provide stronger evidence of the scale's validity. Additionally, the hope-suspense and fear-suspense relationships could be compared across these two models (suspense with no reflective indicators vs. suspense with reflective indicators).

It is also possible that the scale development of a formative construct requires a different strategy. The reflective indicators of a formative construct presumably should capture the construct's overall domain, rather than specific facets. Thus, finding words

and items to reflect this general domain may be a more challenging endeavor for formative constructs than for reflective constructs. Researchers proposing greater use of formative constructs in marketing do not specifically address the issue of developing a scale to directly measure a formative construct (Diamantopoulos 1999; Jarvis et al. 2003).

Whether several emotions other than hope and fear had an impact on suspense was also tested. Because suspense is conceptualized to be a formative construct, it is important to properly determine the domain of the construct: excluding a particular facet of the construct would constitute misspecification. Thus, the expectation was that no additional emotions (other than hope and fear) would have a positive impact on suspense. Although there were several words that were negatively related to suspense (which would suggest that these emotions do not “form” suspense), one emotion—unfulfilled—was positively related to suspense. This emotion word along with the word discontent (which was not measured) form one of the 13 consumption emotion groups proposed by Richins (1997). Thus, it is possible that the proposed conceptualization was misspecified and should include unfulfilled/discontent as well. On the other hand, the emotion unfulfilled/discontent (or an emotion of a similar nature) is not an emotion specified by cognitive appraisal theorists (Ortony et al. 1988; Roseman, Spindel, and Jose 1990; Smith and Ellsworth 1985) nor by earlier emotion researchers (Izard 1977; Plutchik 1980). Although one purpose of Richins’ research was to identify consumption emotions that may have been overlooked in the construction of other emotion scales, the research, for the most part, was empirically driven. Thus, little theory is provided on what causes unfulfilled/discontent and how this emotion is different from other emotions in the CES



scale (some of which have similar content to hope and fear as defined in this dissertation). Future research should consider the emotional content of unfulfilled/discontent and under what conditions it occurs.

*Antecedents of suspense.* Study 3's results also support Propositions 1 and 2—that an *approach appraisal* causes *hope* and an *avoidance appraisal* causes *fear*. However, it should be pointed out the avoidance appraisal-fear relationship was relatively low. Further, when the sample was randomly split in half to determine if the parameters were stable across the two groups, the avoidance appraisal-fear relationship was not significant in one of the groups, although this parameter was invariant across the two randomly split groups. Low power may have resulted in a non-significant relationship. However, this relationship will have to be replicated in future studies to provide further support.

Propositions 3 and 4—that *frequency of probability change* moderates the approach-hope and avoidance-fear relationships—was not supported. The results of the multigroup analysis show that the approach-hope and the avoidance-fear relationships did not vary across the models for the low and high frequency of probability change groups. The rationale for this moderating hypothesis is that the frequency of the probability change should only have an effect on the anticipatory emotions if a person perceives the upcoming event as important.

For example, suppose a woman waiting to board a flight experiences a situation in which she first notices that several other flights have been cancelled due to an incoming snowstorm. Yet, later on, the airline personnel begin the boarding of her flight. Once the woman takes her assigned seat on the plane, she notices that ice has formed on the wing.

In this situation, the probability that her flight may be cancelled is changing. The cancellation of other flights would *increase* the perceived probability that hers will be cancelled as well. She is then asked to board the plane, which would *decrease* the perceived probability that her flight will be cancelled. Finally, the ice that has formed on the wing will likely *increase* her perceived probability that the flight will be cancelled. This changing probability was expected to increase the amount of fear felt *only* when there were negative consequences of a cancelled flight. In other words, the changing probability would likely induce little fear for the woman if it were a routine flight. However, this changing probability would likely have a huge impact if she were flying in for a job interview scheduled later that day. Thus, it was expected that the outcome must first be perceived as important before the frequency of probability change had any impact on hope or, in this example, fear.

The possibility that frequency of probability change causes a direct effect on hope and on fear was then explored. Although frequency of probability change was conceptualized to indirectly influence hope and fear, the possibility that frequency of probability change caused a direct effect on hope and fear was also presented. Berlyne (1960; 1971) has proposed that novel stimuli increase arousal. Thus, a probability that is changing indicates a situation in which particular events are occurring throughout the experience, rather than a situation in which no events are occurring. Thus, these events are likely perceived as novel, and, thus, arousing. Because arousal is a component of emotion, increased arousal should increase the amount of hope and/or fear felt. Similarly, in studying retrospective evaluations of painful experiences, Ariely (1998) found that

participants reported more painful experiences when the intensity of pain varied over time compared to when the pain was constant. He suggested that people adapt to the constant level of pain. Thus, the changes in pain may be perceived as novel and, thus, may cause arousal, which increases the perceived amount of pain.

Based on this logic, the direct effects of frequency of probability change on hope and on fear were tested, and both relationships were positive and statistically significant. Further, these parameters were invariant when the sample was randomly split into two groups. Even though these parameters were invariant, however, the frequency of probability change-hope relationship was not statistically significant in one of the groups. Again, low power may have resulted in this non-significant finding.

However, it may be possible that this non-significant effect is due to the operationalization of the frequency of probability change manipulation. In the high level of this manipulation, the seller rejected the two of the couple's bids on the home. Further, the manipulation also mentioned toward the end of the story that another buyer was interested in the home. Thus, it could be argued that this manipulation indicated a continually increasing probability that the couple would not secure the bid on the house, which would increase the amount of fear felt and decrease the amount of hope felt. This rationale would explain the strong frequency-fear relationship and the relatively weak frequency-hope relationship. Although the story did mention the realtor believed that the couple's second bid was a good price and that the seller would likely accept that bid, which would increase the perceived probability that the couple would secure the house, this statement may not have been sufficient to balance the high probability that the couple

would not secure the home. Thus, future research should attempt to replicate the frequency of probability change-hope relationship. Further, future manipulations of frequency of probability change should attempt to balance the probabilities such that there is a high probability of Outcome A followed by an equally high probability of Outcome B.

### **Contributions to the Literature**

The dissertation contributes to several literature streams—namely the suspense, emotion, and marketing literatures. For each of these streams, this section discusses both the contributions of the empirical findings and/or the contributions of the proposed conceptualization of suspense, its antecedents, and its outcomes.

#### ***Contribution to the Suspense Literature***

As presented in Chapter II, the suspense literature had not, up to this point, provided a valid definition of suspense nor a comprehensive model of the antecedents and consequences of suspense. Researchers suggested a multitude of antecedents of suspense. For example, Alwitt (2002) identified 14 antecedents, such as time pressure, a morally correct outcome, conflict, and outcome uncertainty. Many of these antecedents could actually be considered operationalizations of more abstract concepts. Further, this lack of clarity was compounded by the fact that there was no consensus on the emotional content of suspense—whether suspense was fear, hope, must be both fear and hope, or could be either fear or hope.

The conceptual model of suspense presented here attempted to incorporate the emotion literature—namely, the work of the cognitive appraisal theorists. Guided by a

point of agreement of the suspense theorists—that suspense occurs when one is uncertain about an upcoming event—the emotions hope and fear, suggested by the cognitive appraisal theorists, were identified as components of suspense. The empirical results, as discussed above, support this conceptualization. Additionally, two antecedents that have direct effects on hope and fear were identified—approach appraisal (which positively influences hope) and avoidance appraisal (which positively influences fear). These direct effects were supported in the empirical study as well.

This conceptualization of suspense that includes avoidance appraisal as an antecedent should move the suspense literature forward. Specifically, the argument presented here is that the avoidance appraisal is a “meta-construct” that subsumes the several operational-level variables suggested by suspense researchers, such as goal importance or magnitude of harm to the protagonist. Further, the identification of approach appraisal as an important construct should also provide some insight to the suspense literature. This is because suspense theorists (often working in film/literature) have, for the most part, concentrated on the negative consequences for the protagonist—or the avoidance appraisal. However, as shown in the empirical results, the approach appraisal also contributes to suspense—via hope. This also highlights the view that hope (as defined and measured here) does not reflect “hoping something negative does not occur” (e.g., “I ‘hope’ I don’t have cancer”). Such a state would likely induce *negative*, not *positive*, feelings. Thus, hope and fear should not be viewed as polar opposites of one continuum, in which hope occurs when a person feels optimistic that something negative will not occur—or when a person perceives an absence of fear.

Although many suspense researchers have alluded the idea that positive consequences also impact suspense (Brewer and Lichtenstein 1981; Zillmann 1996), a model that incorporates both the negative and positive consequences—or the approach and avoidance appraisals—had not been put forth. This understanding of suspense also questions the validity of Alwitt's study (2002). In this study, participants were asked to turn a knob to the left if they felt fear or to the right if they felt hope. While this study addresses the notion that hope and fear (or alterations of hope and fear) contribute to suspense, this measurement assumes that hope and fear are on one continuum and do not operate independently.

The conceptualization of suspense presented here also assumes that suspense is an experience. In other words, this conceptualization captures constructs that occur over time—frequency of probability change, degree of probability change, and anticipation time. The suspense literature has been in debate over how the probability impacts suspense. Some researchers proposed that maximal suspense takes place when there is a high probability that an event (most often negative) will occur (Brewer 1996; Bryant, Rockwell, and Owens 1994; Carroll 1984; Carroll 1996; Comisky and Bryant 1982; de Wied 1994; Hoffner and Cantor 1991; Zillmann 1996). This overarching idea was discussed at the operational level, such as a high likelihood that the protagonist will be harmed. Emotion researchers have proposed a similar notion on how probability affects both hope and fear (Ortony et al. 1988; Tallis and Eysenck 1994). They suggested that the higher the probability that a painful event may occur, the higher the fear; similarly, the higher the probability that a pleasurable event may occur, the higher the hope.

On the other hand, other suspense researchers proposed that *maximal uncertainty* (or when the probability is 50/50) produces the most suspense, suggesting an inverted-U relationship (Gan, Tuggle, Mitrook, Coussement, and Zillmann 1997; Ohler and Nieding 1996). The literature on stress faced a similar conflict. Some studies found when the probability that a threat (often an electric shock) is high (i.e., 95%), participants displayed more stress (often measured using physiological measures, such as heart rate and skin conductance) (Breznitz 1984; Niemela 1969). On the other hand, others studies found that *any* amount of uncertainty (i.e., not a 0% nor 100% probability) impacts stress (Monat, Averill, and Lazarus 1972).

The view presented here is that one's perception of how the probability *changes over time* determines how much suspense one feels throughout an experience. Rather than suggesting that suspense is affected by a prior probability or by a probability at a specific point in time, the *frequency* with which the probability changes throughout an experience, as well as the *degree* to which the probability changes (e.g., a 90% chance, then a 10% chance, then a 90% chance versus a 60% chance, then a 40% chance, then a 60% chance) are primary factors that determine how much overall suspense a person feels. The empirical findings in this dissertation suggest that this is the case—frequency of probability changes does positively influence the hope and fear a person feels. Although this variable does not appear to operate how it was originally proposed (as a moderating variable), it does appear to have a direct effect on hope and fear, and thus suspense. Additional research should attempt to replicate this direct effect of frequency of probability change, as well as address the other variables that occur over time—degree of

probability change and anticipation time.

### ***Contribution to the Emotion and Psychology Literatures***

Much of the contribution to the suspense literature is based on the insights from the emotion literature, particularly the cognitive appraisal theories of emotion. Despite this, this dissertation contributes to the emotion literature as well. Specifically, no empirical studies have examined hope as defined and conceptualized here. This dissertation builds upon the work of Ortony et al. (1988), Roseman and associates (Roseman 1991; Roseman, Antoniou, and Jose 1996; Roseman et al. 1990), and Smith and Ellsworth (1985) who have proposed the causes of several emotions, including hope. They have proposed that hope is a positive anticipatory emotion due to the uncertainty associated with whether a desirable event will occur. Despite that this research stream has been in existence for nearly 20 years, measuring hope and testing its major antecedent of the approach appraisal has not been adequately addressed. Some researchers have purported to measure hope as defined by the above-mentioned cognitive appraisal theorists; however, an examination of these scales' items suggests that hope (or positive anticipatory emotion) was not measured. One study's measure of positive anticipatory emotions included items that are decidedly not anticipatory in nature, such as satisfied, proud, and self-assured (Bagozzi, Baumgartner, and Pieters 1998). Another study (Baumgartner, Pieters, and Bagozzi working paper, 2004) used the items *optimistic* and *confident* to measure hope/positive anticipatory emotion. However, a person could be optimistic he/she can *avoid* a painful consequence. Additionally, the authors of this paper, although they cited the same cognitive appraisal researchers as this dissertation



(i.e., Ortony et al. 1988; Roseman 1991; Roseman et al. 1996; Roseman et al. 1990; Smith and Ellsworth 1985) to motivate their conceptualization, do not define hope as is defined here. They initially cite cognitive appraisal theorists, but later discuss hope in terms of optimism. They cite Lazarus' (1991) definition of hope—"the yearning for amelioration of a dreaded outcome" (p. 282)—and then state that hope is not always considered a "clear example of a positive emotion." Further, the context in which they studied hope/positive anticipatory emotion (as well as the constructs of negative anticipatory emotions, and anticipated emotions—or feelings one has when a particular outcome is imagined) was the Y2K problem, arguably not situation in which a person would feel good/positive. Thus, although they claim that they are studying *positive* anticipatory emotion, their underlying logic, measurement items, and study context suggests that they are studying a situation in which a person "hopes" something negative will not happen.

Again, hope as defined here is a positive feeling. Further, although Ortony et al. (1988) describe hope as an emotion that occurs when a person is uncertain about whether a "*desirable* event" (p. 112, emphasis added) will occur, the conceptualization of hope presented here is more precise in describing how a person perceives the upcoming outcome. Specifically, the argument here is that for hope (*positive* anticipatory emotion) to occur, the potential outcome must be *pleasurable*. This is stated in the definition of the *approach appraisal of an outcome—the degree to which a consumer perceives that a consumption of acquisition event will cause physical or emotional pleasure*. This notion, again, is based on evidence that two independent affect systems guide behavior: the

*approach system* guides incentive motivation and behavior, while the *avoidance system* guides withdrawal motivation and behavior (Cacioppo, Gardner, and Bernston 1999; Carver 2001; Davidson 1998; Larsen, McGraw, and Cacioppo 2001). Over 15 years of neuroscience research has suggested that particular parts of the brain drive each of these systems. Thus, it is assumed that an event perceived as pleasurable will cause people to approach, while an event perceived as painful will cause people to avoid. Simply using the word “desirable” to describe an outcome, as Ortony et al. (1988) have done, is problematic because desirable outcome could mean two things: (1) an event that a person tried to approach (or thought would be pleasurable) occurred, or (2) an event that a person tried to avoid (or thought would be painful) did NOT occur. Thus, avoiding the Y2K catastrophe would be a desirable outcome, and the word hope may be used to describe this (i.e., “I hope these Y2K predictions do not occur.”) However, this outcome would not be one that a person would approach (or would believe would be pleasurable), and the person would not feel *positive* emotions during this experience.

Other hope scales have been developed, as well. However, these scales address hope as a cognitive state (such as optimism in the face of failure, similar to the above measurement) (Erikson, Post, and Paige 1975; Staats 1987; Staats 1989) or as an individual difference (Snyder, Harris, Anderson, Holleran, Irving, Sigmon, Yoshinobu, Gibb, Langelle, and Harney 1991; Snyder, Hoza, Pelham, Rapoff, Ware, Danovsky, Highberger, Rubinstein, and Stahl 1997). Thus, this dissertation contributes to the emotion literature developing a scale that measures hope (defined as a positive anticipatory emotion) and testing the antecedent of hope.

### ***Contribution to the Marketing Literature***

This conceptualization of suspense fills several gaps in the marketing literature. Particularly, this dissertation adds new insight to the areas of consumption emotions, satisfaction, waiting experiences, and risky consumption behaviors. These areas are not entirely distinct; however, each will be addressed separately to make particular points.

*Contribution to the consumption emotions literature.* This dissertation provides a conceptual framework of suspense that identifies six specific emotions and their antecedents: hope and fear, the two emotions which comprise suspense, and satisfaction, disappointment, anguish and relief, the resolution emotions. This work contributes to the consumption emotion literature stream that, historically, had identified emotions via empirically driven research and has only recently incorporated cognitive appraisal theory to suggest antecedents of particular emotions.

In the early 1980s, Hirschman and Holbrook published two seminal articles (Hirschman and Holbrook 1982; Holbrook and Hirschman 1982) that pointed out much of the consumer behavior literature emphasized rational decision making and used an information processing model. The authors urged researchers to consider the hedonic and emotional aspects of consumption. Their call spurred research that focused on emotions in the consumption process. Much of this early research in consumption emotions used data reduction techniques to identify underlying factors (Dube' and Morgan 1998; Havlena and Holbrook 1986; Mano and Oliver 1993; Oliver 1993; Oliver 1994; Oliver and Westbrook 1993; Westbrook 1987; Westbrook and Oliver 1991) and used previously developed scales from psychology that supposedly captured most emotions. Richins

(1997), also using data reduction techniques, developed the Consumption Emotions Set, which is purported to identify additional emotions that were not previously included in scales borrowed from psychology. While these studies did identify several emotions that occur in consumption experiences, some of which may seem consistent with those presented here, none of these studies suggested the antecedents of these identified emotions. Rather, most of these studies attempted to measure a variety of emotions during the pre-consumption stage, then measure satisfaction at the post-consumption stage (Dube' and Morgan 1998; Oliver 1993; Oliver 1994; Oliver and Westbrook 1993; Westbrook 1987; Westbrook and Oliver 1991). (A thorough discussion of how this dissertation fits into the satisfaction literature follows.)

Only recently in the marketing literature has there been a push to consider the antecedents of consumption emotions, with the suggestion that cognitive appraisal theory can provide insight (Bagozzi, Gopinath, and Nyer 1999; Kumar and Oliver 1997). Only a handful of researchers have suggested antecedents of particular emotions in their conceptualizations using cognitive appraisal theory as a theoretical framework (Dube' and Menon 2000; Nyer 1997b; Ruth, Brunel, and Otnes 2002). Of these studies, only one addresses any of the emotions presented in this dissertation. MacInnis and de Mello (forthcoming, 2004) have presented a conceptualization of hope based on cognitive appraisal theory. However, their conceptualization of hope is broader than the one presented here. Specifically, their conceptualization (which is similar to Baumgartner et al.'s working paper, 2004) supposes that hope occurs when an outcome is appraised as goal congruent, which is defined as “the extent to which the environment is or is not

conductive to goal fulfillment” (p. 4 of non-published manuscript). Thus, goal congruence can occur not only when the outcome is seen as desirable or pleasurable (an approach appraisal); goal congruence can also occur when escaping negative consequences (an avoidance appraisal) is a possibility. Specifically, the authors state, “In an *aversive* or *threatening* environment, ‘goal congruent’ means that a *negative outcome could be avoided or solved*” (p. 5 of non-published manuscript, italics in original).

Thus, this conceptualization of suspense introduces many new emotions and their antecedents that have not been addressed in the consumption emotion literature. Specifically, fear, disappointment, relief, and anguish and their antecedents are new to the consumption emotion literature. Fear has been studied within marketing. However, this research has mainly concentrated on the effectiveness of fear appeals in advertising (e.g., Ray and Wilkie 1970; Tanner, Hunt, and Eppright 1991) and on salesperson anxiety (Verbeke and Bagozzi 2000). Only Wooten (2000) explores anxiety in a consumer context—gift-giving. Thus, little is known about suspense or its associated emotions and how these constructs impact consumers’ evaluations of their consumption and product acquisition experiences. While satisfaction and hope, along with their antecedents, have been addressed, the conceptualizations presented here are slightly different.

*Contribution to the satisfaction literature.* This dissertation also presents a different lens through which satisfaction, or more broadly, post-consumption/post-purchase evaluation, can be viewed. This lens provides additional insight into several aspects of satisfaction. Much of the research on satisfaction has used the expectation-disconfirmation framework. Specifically, research has proposed and found that

satisfaction results when the product/service is better than expected (a positive disconfirmation) and that dissatisfaction results when the product/service is less than expected (a negative disconfirmation) (Oliver 1981; Szymanski and Henard 2001). Additionally, and importantly, satisfaction research often assumes that satisfaction is an *overall evaluation* of a product or consumption experience, although some have suggested that satisfaction is purely an emotional reaction (Babin, Griffin, and Darden 1994; Nyer 1997a). However, satisfaction, or more specifically, post-purchase/post-consumption evaluations, may be more complex than the disconfirmation model suggests (Fournier and Mick 1999; Gardial, Clemons, Woodruff, Schumann, and Burns 1994; Woodruff 1993). The conceptualization here provides a more comprehensive view.

Previous research in satisfaction appears to make the assumption that consumer goals are fundamentally the same and that the degree to which the goal is met (via the help of the company) can determine satisfaction/dissatisfaction. One example of this is Nyer's (1997b) study, in which he proposed that goal importance affects satisfaction (along with goal congruence). However, this dissertation suggests that consumers have the goal to *approach* a consumption goal/outcome or to *avoid* one. Through making this distinction, this dissertation identifies four discrete emotions that may occur once an outcome is known—the resolution emotions of satisfaction, disappointment, anguish and relief. Each of these resolution emotions, as suggested in the conceptual model, may contribute to one's overall attitude toward the experience, or post-purchase/post-consumption evaluation. Not surprisingly, the emotion of satisfaction, a positive emotion one feels when a “hoped-for” outcome occurs, is proposed to positively affect one's

overall attitude or evaluation. It should be noted that the construct of satisfaction is conceptualized as an emotion. This is in contrast with many studies that assume that satisfaction is an overall evaluation of a product or consumption experience. In addition to satisfaction, the emotion of relief, which is proposed to be a positive feeling that occurs when an expected negative event does not occur, would positively contribute to one's post-purchase/post-consumption evaluations. This may explain the finding that medical patients' anxiousness and worry in the pre-consumption stage was positively related to satisfaction at the post-consumption stage (Dube', Belanger, and Trudeau 1996). While the authors suggest that patients exhibiting anxiousness may have received more attention from medical staff, which contributed to higher levels of satisfaction, based on the conceptualization here, it is possible that relief contributed to these positive post-event reactions.

Additionally, dissatisfaction, or the negative feelings one feels at the conclusion of a consumption event, may be more complex than not meeting one's expectations (a negative disconfirmation). Negative feelings at the post-event stage can be due to both disappointment and anguish. Most satisfaction literature seems to assume that a consumer's goal is an attempt to reach a more positive state—or that consumers are only seeking pleasurable outcomes. Thus, it is somewhat surprising that disappointment, the negative emotion felt when a "hoped-for" event does not occur, has not been considered as a factor that contributes to one's post-purchase/post-consumption evaluation. On the other hand, there are many instances when a consumer may wish to avoid a negative state or outcome. If one is unable to avoid this outcome, one may feel anguish, which would

also negatively contribute to one's overall experience. This set of resolution emotions that have the potential to occur at the conclusion of an expected event and can affect one's post-event (or post-purchase/post-consumption) evaluations had not been proposed in the marketing literature.

It should be pointed out that this dissertation focuses on events with dichotomous outcomes (i.e., "X will occur" versus "X will not occur") rather than continuous outcomes. Despite this assumption, this conceptualization is expected to generalize to situations in which the outcome is continuous. For instance, if a person is dying for a Café Mocha (and expects that a Café Mocha will be pleasurable—an approach appraisal), the person may be *disappointed* if their drink is not served with the usual whip cream. On the other hand, a person may be extremely *satisfied* if the Café Mocha has more chocolate than usual. These same dynamics would occur in situations in which the outcome was continuous in an avoidance appraisal context. For instance, if the pest inspector determined a homeowner had termites, the homeowner may immediately imagine the potential damage and its associated costs. If that person imagined repairing the house would cost \$1000, a bill of less than \$500 would elicit some relief, while a bill of \$1500 would elicit even more anguish than if the cost was \$1000.

The conceptual model also suggests that suspense, or hope and fear, felt throughout the experience may amplify the resolution emotions. This is an important contribution because it also suggests that factors other than a positive (negative) disconfirmation affect satisfaction (dissatisfaction), or post-consumption evaluations. Research in marketing has found support for this—that pre-consumption arousal has a



moderating effect on post-consumption judgments (Gorn, Pham, and Sin 2001; Mano and Oliver 1993; Mattila and Wirtz 2000). For instance, Mattila and Wirtz (2000) found that arousing environments amplified post-consumption evaluations: in pleasant environments, high-arousal situations were found to be more satisfying than low-arousal situations, and in unpleasant environments, high-arousal situations were found to be less satisfying than low-arousal situations. Additionally, Gorn et al. (2001) found that, when rating a positively toned ad, participants placed in a high state of arousal rated the ad more favorably than those who were not placed in a high state of arousal. Similar amplifying dynamics were found for the rating of a negatively toned ad: participants placed in a high-arousal state rated the ad less favorably than those who were not placed in a high state of arousal.

This dissertation extends the previously mentioned findings. Specifically, this conceptualization suggests that, in some situations, pre-consumption arousal may be due to suspense. Thus, how a consumer evaluates the outcome (the approach and avoidance appraisal) will induce arousal, which in turn, amplifies the emotions felt once the event is known. This is contrast with the notion that *only environmental factors* induce pre-consumption arousal, as was the case in the other above-mentioned studies. Thus, the approach appraisal and avoidance appraisal indirectly affect the degree to which one has positive and negative post-event evaluations (depending on the outcome). While environmental factors do affect suspense by providing clues that suggest changes in the probability, both the approach and avoidance appraisals play an important role in the amount of suspense, or anticipatory arousal, felt.

This notion that appraisals indirectly affect post-event evaluations is consistent with Spreng, MacKenzie, and Olshavsky's (1996) and Spreng and Mackoy's (1996) findings. In both studies, the authors found that *desire* is one construct that affects satisfaction (although Spreng, MacKenzie and Olshavsky's model incorporated desire congruency and attribute satisfaction as mediators). Desire and approach appraisal appear to be analogous concepts. Thus, the more a person desires a particular outcome (the higher the approach appraisal), the more satisfied one will feel if the outcome does occur.

*Contribution to the waiting/service delay literature.* The literature on waiting and service delays is also related to the conceptualization of suspense. Service delays occur when one is waiting for an outcome (the performance of the service) to occur. Similarly, suspense occurs when one awaits an important outcome. The conceptualization here is expected to contribute to or complement this waiting/delay literature stream in three ways.

First, the conceptualization of suspense highlights situations in which the outcome for which one is waiting is important (i.e., the approach or avoidance appraisal levels are assumed to be high) and uncertain, which results in hope and fear, and thus suspense. However, research on waiting, assumed to be a negative experience, does not incorporate fear or suspense. Rather, much of the waiting/delay research focuses on situations in which anger or frustration occurs. Some waiting/delay studies have suggested or explored the attributions (blame) for the delay (Baker and Cameron 1996; Diaz and Ruiz 2002), in which anger is likely to occur if the company is thought to be responsible for the delay. Several other studies have explored how people perceive the passage of time and have

indicated several strategies to reduce consumers' perceived waiting time (Antonides, Verhoef, and van Aalst 2002; Baker and Cameron 1996; Dellaert and Kahn 1999; Houston, Bettencourt, and Wenger 1998; Pruyn and Smidts 1998). These studies seem to apply to contexts in which frustration is the most likely emotion.

However, fear (and thus suspense) is a likely emotion in many consumption experiences when waiting or delay is involved. One study has addressed delay in a situation in which the outcome likely had an avoidance appraisal: Taylor (1994) considered delays in the context of airline travel. However, the study does not explicitly incorporate fear or suspense within the conceptualization. Rather, Taylor uses the term uncertainty, which is defined as feelings of uneasiness and anxiety and is measured in a similar manner (although the word "uncertainty," arguably cognitive in nature, was also used as a measurement item). Thus, the definition and measurement in Taylor's study are similar to how suspense was measured in the studies in this dissertation. Further, delay (an objective measure collected by the author) could be conceptualized as an increase in probability; the longer the delay, the more likely one will miss a connecting flight or the more likely the flight will be cancelled. Results suggested that a flight delay has a positive effect on uncertainty, which, in turn, had a negative effect on overall service. Thus, Taylor's study can fit into the suspense framework, assuming that delay is related to frequency of probability change and uncertainty is related to fear/suspense. This framework presented in this dissertation will likely be useful for contexts in which outcomes are perceived as having an avoidance appraisal, such as medical services and home, car, and computer repair.

Second, this research presents a distinction between anticipation time and probability change. Research in the suspense literature has used the term delay. However, as pointed out by Carroll (1984), this term is not clear because it has several meanings. This confusion was discussed in Chapter III. First, a delay could simply suggest an *increase in anticipation time*, what some marketing researchers might refer to as “waiting time.” Second, a delay could also signal an *initiating event*, as when someone arrives at the airport and notices that their flight has been delayed. Finally, a delay could suggest a *change in probability* (which may be coupled with the passage of time). This is what likely how Taylor (1994) used delay in her study, as evidenced by this quote: “As the delay progresses to 30 minutes...the passenger may start to feel increasingly uncertain about whether or not he or she will make the connecting flight” (p. 58). This is also similar to what Hui et al. (1998) called a *correctional delay*—a delay that suggests a particular goal may not be achieved. Thus, this conceptualization points out that term delay may be too broad because it does not differentiate between the confounding effects of anticipation time and probability change. Future research in this area should be aware of this potential problem.

Finally, the framework presented here ties in with research on delay associated with a pleasurable outcome. Delay has most often been associated with negative experiences. However, a delay could create *positive* feelings, namely hope, if the outcome is perceived as pleasurable (an approach appraisal). Anticipation time, the amount of time between the initiating event (the point at which one is aware of the upcoming event) and when the event actually occurs, is proposed to moderate the

relationship between approach appraisal and hope. Thus, if one has to *wait* for a pleasurable outcome, a person is expected to feel more hope throughout the experience (as long as the wait is not too long). This notion is related to Mandel, Nowlis, and McCabe's (working paper, 2004) research on delay and enjoyment. Specifically, they found that participants who were forced to wait 30 minutes before eating a chocolate cake reported more enjoyment than those who were allowed to eat the cake immediately. While the researchers do not conceptualize hope as a mediating variable, it is likely that person felt more enjoyment because they felt more hope/suspense while waiting to eat the cake.

*Contribution to the risky consumption behaviors literature.* The suspense conceptualization presented in this dissertation also provides insight into risky consumption behaviors. White water rafting (Arnould and Price 1993), skydiving (Celsi, Rose, and Leigh 1993), and shoplifting (Babin and Babin 1996) are all behaviors that entail a large degree of perceived risk and have been studied by marketers. Despite the risk involved, many consumers find these activities extremely enjoyable (at least once the event is over). The conceptualization of suspense provided here provides a framework that explains why such behaviors are so appealing.

Specifically, the perceived risk associated with these activities is analogous to an avoidance appraisal. Thus, these risky consumption activities often involve fear. Once the event is over, and one has avoided a painful outcome, relief is felt. Each of the studies cited above notes the fear associated with these risky behaviors. For instance, Arnold and Price (1993) quoted a white water rafting participant as saying, "For me, river rafting is a

horrible thing. I am scared to death of water. . .” (p. 40). Additionally, Celsi et al. (1993) describe the final stage of a skydiving experience (opening the chute) as the finale of a fearful experience: “Thus, a good canopy...punctuates the end of an anxiety spike” (p. 8).

The term relief is not used to describe feelings after the fearful event is over in these studies. However, Arnould and Price (1993) use the analogy of films to explain why people feel such positive feelings once the traumatic experience has ended: “[these movies] highlight unpleasant and life-threatening events. But in each case a triumphant moment—saving the cattle herd and attaining the summit—leads to emphatic positive reevaluation of all the negatives that might otherwise dominate the evaluation of the experience” (p. 26).

Additionally, it is possible that with experience, individuals no longer have high avoidance appraisals. Further, approach appraisals may be high for more experienced people: they anticipate the *pleasure* of the experience of freefalling or rushing through the rapids. Thus, more hope may be felt as a result. Celsi et al. (1993) describe the hope felt by advanced skydivers during the ascent: “Experienced skydivers...are typically only anxious on the ascent, as plane takeoffs (the most dangerous aspect of the flight) are when these skydivers feel they have no control...However, as the plane turns on jump run, all skydivers report a surge of anticipation and excitement” (p. 8). In such cases, feelings of satisfaction should be elicited once the event has transpired. Additionally, Babin and Babin (1996) also suggest that shoplifters have feelings of “excitement.” Thus, in risky consumption contexts, fear during the pre-event stage and relief in the post-event state are primarily the emotions felt among beginners, while among those more advanced,

the primary emotion are hope during the pre-event stage and satisfaction at the post-event stage.

Despite these possible differences in the primary emotions felt between novice and advanced participants, risky consumption behaviors are perhaps best described as contexts of ambivalent suspense: Some amount of hope *and* fear is likely felt by all participants in the pre-event stage, and, thus, some amount of satisfaction *and* relief (two positive emotions) is felt at the post-event stage. This likely explains why people are drawn to these activities: strong positive emotion—a combination of satisfaction and relief—is felt at the event conclusion, and these emotions are amplified by the suspense felt in the pre-event stage. This quote by one of Arnould and Price's (1993) participants provides an overall summary of the experience: "I have to admit—it was the most exciting thing I've done in a long time. I never felt safe, but I did start to feel like I wasn't in complete danger. For the first 15 to 20 minutes it was pure terror.... By the end of the day—I'd been thrown all over the raft...I was very drained because I'd been tense all day long, but I felt very invigorated . . . it is challenging, exciting, thrilling, exhausting, and I'd recommend it highly" (pp. 40-41).

Suspense is likely tied to and can contribute numerous marketing studies that were not mentioned above. The purpose of this discussion was to identify major streams of research (rather than every possible study) in which suspense and its related emotions apply. The discussion now turns to the managerial implications of suspense.

### **Managerial Implications**

Should marketing managers attempt to create suspense? There is no black and white answer to this question. Whether a marketer should create suspense for his/her customers depends on several factors. First, whether an experience is one of hopeful, fearful or ambiguous suspense is one factor that would determine if suspense should be increased in a particular consumption situation. Second, the degree to which the marketer can control the anticipated outcome should be considered as well. It should also be noted that, in some situations, marketers might not have control over all or many of the factors that influence suspense and the anticipated outcome. However, understanding these factors will help marketers better understand the customer's situation. The managerial implications of suspense in hopeful, fearful, and ambivalent situations will now be discussed.

Situations in which a consumer is seeking a pleasurable outcome in which little risk (or a low avoidance appraisal) is involved constitute situations of *hopeful suspense*. Thus, examples of these types of situations would include the following: shopping for pleasure (not for a specific and imminent occasion); activities associated with games, such as low-stakes gambling and company sweepstakes and prizes; purchasing a new home or car in a low stress situation; dining experiences; music concerts; opportunities for fans to meet their cherished celebrities; and home improvement projects; cosmetic surgery or procedures. In these situations, marketers may want to increase the hope/suspense in the situation using the levers/antecedents specified in the conceptual model. Of course, increasing hope/suspense could backfire if this hopeful outcome is not



realized: the consumer will feel extreme disappointment. On the other hand, such tactics could lead to a consumer's intense satisfaction if the firm does ensure that hoped-for outcome occurs. Thus, increasing hope/suspense is a risky tactic if the marketer cannot guarantee a positive outcome.

A situation in which a consumer is avoiding a possibly painful outcome, with no possibility that the alternative outcome will be pleasurable, constitutes a *fearful suspense* situation. Thus, examples of these types of situations would include the following: medical services in which one is waiting for a diagnosis or when is planning to undergo risky medical procedures; shopping for a required, important, and imminent occasion; waiting for a desperately needed product (purchased online or through a catalog) to be delivered on time; applying for a loan; home, car, or computer repair; travel/transportation contexts (particularly business travel or travel that requires the person arrive at the destination at a particular time). In these situations, marketers would want to reduce the amount of fear/suspense one feels throughout the experience. Marketers can do this by controlling the levers/antecedents that influence fear/suspense. If tactics are used to reduce fear/suspense during the anticipation period, the emotion of anguish will be less pronounced if the painful outcome cannot be avoided. There is a possibility, however, the person may feel the positive emotion of relief if the painful outcome is avoided. Further, feelings of relief will be amplified if the situation was highly fearful/suspenseful. However, increasing a consumer's fear during the anticipation period in order to amplify their feelings of relief would constitute unethical behavior if the consumer had not agreed to be put in a fearful situation. For instance, a car salesman

may increase a consumer's fear about whether the manager will accept the consumer's asking price for the car. The salesman may force the consumer to wait for several minutes (i.e., increase anticipation time), despite the salesman knowing the manager's decision.

Of course, some consumers seek out fearful situations. Most often, however, the fear in these types of situations is coupled with hope, resulting in a situation of *ambivalent suspense*. These situations most often constitute risky consumption or entertainment. Examples of risky consumption are shoplifting and stock market trading, as well as extreme sports, such as skydiving, white water rafting, bungee jumping, downhill mountain biking, and extreme skiing. However, even non-extreme skiing and other less risky behaviors may be perceived as risky if the consumer is a beginner. Examples of entertainment are amusement park rides and attractions, films, books, plays, video games, high-stakes gambling, and spectator sports. Because people are often aware of the risks involved when entering these situations (although films, books, spectator sports, etc. do not pose actual physical risks), marketers are open to use the levers/antecedents to increase the fear in these situations without serious concern they are manipulating the consumer. For instance, one participant in Celsi et al.'s (1993) skydiving study mentioned the tactics used to increase fear: "They showed us how to get in and out of the aircraft. They just kind of built it up even more" (p. 7). Again, increasing the fear/suspense will lead to greater relief at the conclusion of the experience. However, in these situations, marketers should consider increasing the hope as well. For instance, a white water rafting guide may offer an award to the raft that completes a rapid first or to the person who does not fall out of the raft. A tactic such as this would result in

satisfaction at the conclusion of the event (if the person completes the task). Further, consumers will likely perceive the anticipation period as more enjoyable, since they will also be feeling hope. Finally, adding hope to the experience will increase the suspense (the overall amount of anticipatory arousal), which in turn will amplify the relief and satisfaction at the conclusion.

### **Limitations and Future Research**

Although this research sheds light on the nature of suspense, there are some limitations. First, the studies in this dissertation used scenarios. Additionally, the scenario used in the experiment was presented in third person—it described a couple looking for a home. Thus, the scenario did not ask participants to imagine themselves in a situation. These scenarios were therefore artificial and likely did not induce the amount of emotion people feel in real situations. Despite this, the expectation is that the relationships found in this study would be stronger if conducted in more realistic conditions, particularly the effects of approach appraisal, avoidance appraisal, and frequency of probability change. Future research, then, should attempt to study these relationships in non-laboratory settings.

Another limitation of this research is the sample size used in the experiment ( $n = 241$ ). Although a sample size of 300 was the target, due to time constraints this goal was not met. Thus, the results of those analyses could be unstable due to the low sample size, particularly for the multigroup analysis in which the moderating effect of frequency of probability was tested. The problem of the small sample size was somewhat remedied by aggregating the hope, fear, and suspense items (Bagozzi and Edwards 1998). Despite this,

future research should address whether frequency directly affects hope and fear (which this dissertation's empirical results did show) or whether frequency moderates the approach-hope and avoidance-fear relationships (which was hypothesized).

A third limitation was the indirect effects of the avoidance manipulation in the experiment. This manipulation had a positive effect on both the approach and frequency of probability manipulations checks. Prior to conducting the main study, three pretests were conducted, and iterative changes were made to the scenario and measures that resulted in minimal indirect effects in the third and final pretest. Despite these efforts, indirect effects were found in the main study. While these effects were relatively small compared to the intended direct effects, they should be considered when interpreting the results.

A fourth limitation surrounds the validity of the frequency of probability change manipulation. Specifically, the conceptualization presented here suggests that frequency of probability change is represented by “see-saw” changes in the probability (e.g., 90%, 10%, 90%, etc.). However, it is possible that participants perceived the probability as a *continually increasing* probability that the negative consequence (not securing the home) would occur (e.g., 70%, 80%, 90%, etc.). This possibility may explain the relatively weak relationship between frequency of probability change and hope compared to the strong relationship between frequency of probability change and fear.

There are several directions for further research. First, the results found in this study should be replicated. As mentioned, although the hope, fear, and suspense scales generally showed favorable psychometric properties, there is some concern about the

validity of the suspense scale since fear had a stronger effect on suspense as compared to hope. Testing these relationships across other contexts would provide stronger support for the validity of the suspense scale. Additionally, the direct effect of frequency of probability change on hope and fear should be tested in other contexts, particularly because this relationship was not specified a priori.

Many propositions proposed in the conceptual model were not tested in this study, and future research should empirically explore those relationships. The antecedents of degree of probability change and anticipation time should be empirically tested, as well as the consequences of suspense. Further, finding support for the effect of suspense on the proposed consequences would provide stronger evidence for the validity of the suspense scale.

Future research should also consider the moderating effects of individual difference variables. Some variables which likely have moderating effects on several proposed relationships in the conceptual model include sensation seeking (Zuckerman 1979), optimal stimulation level (Steenkamp and Baumgartner 1992), affect intensity (Larsen and Diener 1987), need for cognitive closure (Houghton and Grewal 2000; Webster and Kruglanski 1994), uncertainty coping (Greco and Roger 2001), behavioral inhibition and behavioral activation (a tendency to avoid/approach) (Carver and White 1994), and prevention and promotion tendencies (also a tendency to avoid/approach) (Higgins 2002).

Another avenue for research would be to consider how suspense, hope, and fear affect individuals' behavior during the anticipation period. For instance, a highly

suspenseful eBay auction likely leads a person to bid beyond their originally set limit. Further, research should consider how evaluations of suspenseful experiences affect future behaviors and one's attitude toward the company. Finally, because suspense is a highly emotional experience, it likely has a strong impact on memory. Future research should consider this avenue as well.

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**APPENDIX A**  
**STUDY 2 QUESTIONNAIRE**

**DIRECTIONS:**

**We would like to understand your feelings in a consumption situation. You will be presented a story about a house-buying situation. After you read the story, you will be asked to indicate the emotions you felt while reading the story. You will also be asked other questions related to the story and about you, such as your personality traits.**

**Please turn the page to begin.**

**SECTION 1**

**Before reading the story, we would like to know how you are feeling right now.  
Please circle the number that is closest to the word that best describes how you feel.**

Currently, I am:

In a Good Mood	1	2	3	4	5	6	7	In a Bad Mood
Irritable	1	2	3	4	5	6	7	Pleased
Sad	1	2	3	4	5	6	7	Happy
Depressed	1	2	3	4	5	6	7	Cheerful

**Please proceed to the next page.**

**SECTION 2**

**Please read the following story.**

Chris has been working hard for 5 years at his job in Dallas. During this time, he and his wife Donna have had two beautiful children—Danielle, who is 4, and Dustin, who is 1½. One day at work Chris is told that he has been promoted. The promotion, however, will require that Chris relocate to Denver in 3 months.

Chris decides to take off 3 days to search for the house. Chris and Donna have very different preferences about the style of the house, and their house is important to both of them. So, it's vital that they look together. Chris will be extremely busy at work for the next few months, and can barely afford to take off 3 days to look for the new home. If he and Donna don't find anything this time, they'll have to move into an apartment temporarily, which will require a one-year lease. Plus, they will have to move all their belongings they've accumulated the past 5 years into a storage facility. It would be a *serious hassle—particularly with two young children!!* They would have to go through two moves instead of one. Plus, Chris' company will only pay for *one move*.

Chris and Donna arrive in Denver to begin the search for their new home. They've looked at homes for 3 days with their real estate agent, Erica, who has been extremely pleasant and really seems to understand their needs. However, Chris and Donna still haven't found a house that satisfies both of them. They have one more house to view before flying back to Dallas. As they drive up and see the house, they sigh—they both think the house looks *perfect*, exactly what they were thinking. Erica escorts them inside, and the inside looks just as beautiful as the outside. They *know* this is the house! On top of this, the house is located in the historic district and in the best school district in the city. It couldn't be more perfect!

At that point, they decide to make a bid on the house, and they fly back to Dallas that evening. The next day, Erica calls to tell them that the buyers did not accept the offer. So, Chris and Donna make a second offer—a little higher than their first bid. Erica agrees that it is a good price, and thinks the sellers will take it. She hangs up, and Chris and Donna try to wait patiently for Erica to call back.

Later that afternoon, Erica calls again to tell them that the seller did not accept their second offer either. Plus, the seller told Erica that another buyer was interested and was likely to make an offer later that day. They figure they better not take any chances. This is the *perfect* house!!! They *both* love it!!! And, they can't stand the thought of temporarily living in an apartment and putting *all* their belongings in storage—going through two moves will be a *serious hassle*, especially with the kids!!! So this time they increase their offer much more than they did the last time.

There was no call from Erica that night. But the next morning during breakfast the phone rings, and it's Erica with the final word on the deal...

**Please proceed to the next page.**

### SECTION 3

We want to know how you were feeling while reading the story. Below, please indicate how much you believe each word describes how you felt while reading the story by circling the appropriate number on a scale from 1 to 7. A “1” means you did NOT at all feel that emotion, and a “7” means you felt that emotion VERY intensely.

Some of these words may sound very similar, but it is important that you take your time and answer as thoughtfully as you can.

	Not at all							Very intensely
Pleasant excitement	1	2	3	4	5	6	7	
Afraid	1	2	3	4	5	6	7	
Anticipatory excitement	1	2	3	4	5	6	7	
Dread	1	2	3	4	5	6	7	
Positive expectation	1	2	3	4	5	6	7	
Happy	1	2	3	4	5	6	7	
Surprised	1	2	3	4	5	6	7	
Excitement	1	2	3	4	5	6	7	
Calm	1	2	3	4	5	6	7	
Frightened	1	2	3	4	5	6	7	
Tightness	1	2	3	4	5	6	7	
Panicked	1	2	3	4	5	6	7	
Unfulfilled	1	2	3	4	5	6	7	
Embarrassed	1	2	3	4	5	6	7	
Ill-at-ease	1	2	3	4	5	6	7	
Fear	1	2	3	4	5	6	7	
Suspense	1	2	3	4	5	6	7	
Tension	1	2	3	4	5	6	7	
Warm hearted	1	2	3	4	5	6	7	
Guilty	1	2	3	4	5	6	7	
Relieved	1	2	3	4	5	6	7	
Enthusiastic	1	2	3	4	5	6	7	
Looking forward to	1	2	3	4	5	6	7	
Lonely	1	2	3	4	5	6	7	
Apprehensive	1	2	3	4	5	6	7	

Please proceed to the next page.



Please continue to indicate how much you believe each word describes how you felt while reading the story.

	Not at all					Very intensely	
Positive anxiousness	1	2	3	4	5	6	7
Petrified	1	2	3	4	5	6	7
Contented	1	2	3	4	5	6	7
Eager	1	2	3	4	5	6	7
Depressed	1	2	3	4	5	6	7
Terrified	1	2	3	4	5	6	7
Jealous	1	2	3	4	5	6	7
Proud	1	2	3	4	5	6	7
Scared	1	2	3	4	5	6	7
Angry	1	2	3	4	5	6	7
Sexy	1	2	3	4	5	6	7
Uneasy	1	2	3	4	5	6	7

#### SECTION 4

Below are some questions about the story you just read. Please rate your thoughts by circling the appropriate number.

*For Chris and Donna, getting the house would be:*

	A Little Bit					Extremely	
Fantastic	1	2	3	4	5	6	7
Wonderful	1	2	3	4	5	6	7
Great	1	2	3	4	5	6	7

*Now imagine the seller does NOT accept Chris and Donna's offer. For Chris and Donna, the consequences of this outcome would be:*

	A Little Bit					Extremely	
Inconvenient	1	2	3	4	5	6	7
Disruptive	1	2	3	4	5	6	7
A Pain	1	2	3	4	5	6	7
Awful	1	2	3	4	5	6	7
Horrible	1	2	3	4	5	6	7

Please proceed to the next page.

Below are some additional questions about the story you just read. Please circle the number that best reflects your agreement with the following statements.

	Strongly Disagree						Strongly Agree
The story was believable.	1	2	3	4	5	6	7
Chris and Donna's chances of closing on the house kept fluctuating.	1	2	3	4	5	6	7
Chris and Donna have a lot at stake.	1	2	3	4	5	6	7
I can imagine an experience like this happening to someone.	1	2	3	4	5	6	7
The likelihood that Chris and Donna would win the bid on the house kept changing.	1	2	3	4	5	6	7
Chris and Donna have a lot riding on whether the seller accepts their offer.	1	2	3	4	5	6	7

## SECTION 6

For the next set of questions, we would like to know some things about yourself. Please circle the number that best reflects your opinion .

In general, would you consider yourself familiar or unfamiliar with buying a house?

Very familiar 1 2 3 4 5 6 7 Very unfamiliar

Would you consider yourself knowledgeable about buying a house?

Know a great deal 1 2 3 4 5 6 7 Know nothing at all

Please circle the number that best reflects your agreement with the following statements.

	Strongly Disagree						Strongly Agree
I try to have my life and career clearly mapped out.	1	2	3	4	5	6	7
I think variety is the spice of life.	1	2	3	4	5	6	7
If I think something unpleasant is going to happen I usually get pretty "worked up."	1	2	3	4	5	6	7
I find the prospect of change exciting and stimulating.	1	2	3	4	5	6	7
There is something exciting about being kept in suspense.	1	2	3	4	5	6	7
I will often do things for no other reason than that they might be fun.	1	2	3	4	5	6	7

Please proceed to the next page.

**Please continue to circle the number that best reflects your agreement with the following statements.**

	Strongly Disagree						Strongly Agree
I go out of my way to get things I want.	1	2	3	4	5	6	7
“Calm and cool” could easily describe me.	1	2	3	4	5	6	7
My friends might say I’m emotional.	1	2	3	4	5	6	7
I like to plan ahead in detail rather than leaving things to chance.	1	2	3	4	5	6	7
I crave excitement and new sensations.	1	2	3	4	5	6	7
My emotions tend to be more intense than those of most people.	1	2	3	4	5	6	7
I get worried when a situation is uncertain.	1	2	3	4	5	6	7
I worry about making mistakes.	1	2	3	4	5	6	7
When good things happen to me, it affects me strongly.	1	2	3	4	5	6	7
I feel anxious when things are changing.	1	2	3	4	5	6	7
When I’m doing well at something, I love to keep at it.	1	2	3	4	5	6	7
When I want something, I usually go all-out to get it.	1	2	3	4	5	6	7

## SECTION 6

**The following items will be used for classification purposes. Please place a check in the blank next to the appropriate category.**

What is your gender?

Female       Male

What is your age?

Under 25       25-44       45-64       65 and over

What is your highest level of education?

Some high school       College graduate  
 High school graduate       Postgraduate degree  
 Some college

**This concludes the study. Thank you for participating!**

## APPENDIX B

### STUDY 3 SCENARIO MANIPULATIONS

Chris has been working hard for 5 years at his job in Dallas. During this time, he and his wife Donna have had two beautiful children—Danielle, who is 4, and Dustin, who is 1½. One day at work Chris is told that he has been promoted. The promotion, however, will require that Chris relocate to Denver in 3 months.

Chris decides to take off 3 days to search for the house. Chris and Donna have very different preferences about the style of the house, and their house is important to both of them. So, it's vital that they look together. **Chris will be extremely busy at work for the next few months, and can barely afford to take off 3 days to look for the new home. If he and Donna don't find anything this time, they'll have to move into an apartment temporarily, which will require a one-year lease. Plus, they will have to move all their belongings they've accumulated the past 5 years into a storage facility. It would be a *serious hassle*—particularly with two young children!! They would have to go through two moves instead of one. Plus, Chris' company will only pay for *one move*. (High Avoidance) OR Chris won't be busy at work within the next 3 months. Plus, his company has given him 10 business days to house-hunt in Denver and will pay for lodging, meals, and travel. So if Chris and Donna can't find anything they like on this first trip, they will have plenty of time to go back to Denver to continue looking. And, he won't have to pay any expenses associated with additional trips. (Low Avoidance)**

Chris and Donna arrive in Denver to begin the search for their new home. They've looked at homes for 3 days with their real estate agent, Erica, who has been extremely pleasant and really seems to understand their needs. However, Chris and Donna still haven't found a house that satisfies both of them. They have one more house to view before flying back to Dallas. As they drive up and see the house, **they sigh—they both think the house looks *perfect*, exactly what they were thinking. Erica escorts them inside, and the inside looks just as beautiful as the outside. They *know* this is the house! On top of this, the house is located in the historic district and in the best school district in the city. It couldn't be more perfect! (High Approach) OR they both think the house looks pretty nice, at least better than the others they saw. Erica escorts them inside, and they think it looks OK, too. They are tired of looking and think this house will be good enough. Chris' commute to work would be longer than he'd wished, and they are not in the best school district, but the neighborhood is very safe. (Low Approach)**

At that point, they decide to make a bid on the house, and they fly back to Dallas that evening. **The next day, Erica calls to tell them that the buyers did not accept the offer. So, Chris and Donna make a second offer—a little higher than their first bid.**

Erica agrees that it is a good price, and thinks the sellers will take it. She hangs up, and Chris and Donna try to wait patiently for Erica to call back.

Later that afternoon, Erica calls again to tell them that the seller did not accept their second offer either. Plus, the seller told Erica that another buyer was interested and was likely to make an offer later that day. They figure they better not take any chances.

(High Frequency) OR

Chris and Donna call a few of their friends when they get home to tell them about their potential new home, and their friends congratulate them on finding a house so quickly. They also pull out some paint swatches leftover from when they redecorated the living room 2 years ago. They're thinking one of the colors would look great in the living room of their potential home.

The next day Chris calls Erica, and she mentions she hasn't heard from the sellers. Then Chris and Donna get on the Internet to take a look at the house again. There are plenty of pictures. (Low Frequency)

This is the *perfect* house!!! They *both* love it!!! (High Approach) OR The house is not perfect, but they like it OK. (Low Approach) And, they can't stand the thought of temporarily living in an apartment and putting *all* their belongings in storage—going through two moves will be a *serious hassle*, especially with the kids!!! (High Avoidance) OR At least if they don't get this house, things will work out since they will have plenty of time to go back to Denver to search later on—with all expenses paid. (Low Avoidance) So this time they increase their offer much more than they did the last time.

There was no call from Erica that night. But the next morning during breakfast the phone rings, and it's Erica with the final word on the deal...

## VITA

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- Doctoral Student Research Excellence Award, Department of Marketing, Texas A&M University, 2002-2003
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- AMA-Sheth Foundation Doctoral Consortium Fellow, Emory University, 2002
- Mays Graduate School of Business Dean's Award for Outstanding Research by a Doctoral Student, Texas A&M University, 2001-2002
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