Intrinsic Religiosity and Attitude toward Finales as Precursors of Superstitious Beliefs: A Cross-Cultural Investigation

Jeremy J. Sierra  
Department of Marketing, McCoy College of Business Administration, Texas State University, Texas

Michael R. Hyman  
College of Business, New Mexico State University, USA

Byung-Kwan Lee  
Department of Industrial Psychology, Kwangwoon University, South Korea

Taewon Suh  
Department of Marketing, McCoy College of Business Administration, Texas State University, Texas

Abstract

Leaning on the theoretical tenets of experiential consumption and attitude process literatures, this cross-cultural research uses path analysis to examine antecedents and consequences of superstitious beliefs. For the Korean data, attitude toward finales fully mediates the relationship between intrinsic religiosity and superstitious beliefs. For the U.S. data, intrinsic religiosity has no effect on either attitude toward finales or superstitious beliefs. For both samples, (1) attitude toward finales has a positive effect on suspension of disbelief, and (2) attitude toward zodiac signs and zodiac sign expertise relate positively to superstitious beliefs. This research adds to the religiosity and superstition literatures by exploring carefully selected yet under-researched antecedents and consequences of consumers’ superstitious beliefs. The mediation effect for Korean respondents and model differences between the Korean and U.S. respondent sets provide novel empirical results.

Keywords: Astrology, Attitude toward Finales, Intrinsic Religiosity, Suspension of Disbelief, Superstitious Beliefs, Zodiac Sign
Introduction

Considered an “irrational belief that an object, action, or circumstance that is not logically related to a course of events influences the outcome” (Damisch, Stoberock and Mussweiler, 2010, p.1014), people often hope their superstitions will induce propitious outcomes (Kramer and Block, 2008). More than half of U.S. and U.K. residents follow at least one superstition (Wiseman, 2003) and more U.S. residents believe in superstition than evolution (CBS News, 2012).

From a consumer perspective, researchers have explored superstitious beliefs within (1) single product contexts such as sports, investments, residences, and vanity license plates (Agarwal et al., 2014; Ariyabuddhiphongs and Chanchalermporn, 2007; Fortin, Hill and Huang, 2013; Kolb and Rodriguez, 1987; Lepori, 2009; Morris and Griffiths, 2013; Wilson et al., 2013; Woo and Kwok, 1994), (2) single luck contexts such as birth year, product usage, numerology, and feng shui (Chau, Ma and Ho, 2001; Hamerman and Johar, 2013; Johnson and Nye, 2011; Peng, Hsiung and Chen, 2012), (3) single marketing variables such as brand logos and selling price (Simmons and Schindler, 2003; Wang et al., 2012; Yang, 2011), and (4) single cultures or countries (e.g., South Africa, China) (Bourassa and Peng, 1999; Peltzer and Renner, 2003). These researchers repeatedly analyzed self-reported attitudinal and profile data (Hernandez et al., 2008; Zeidner and Beit-Hallahmi, 1988) and used econometrics to model government-collected data (Chong and Du, 2008; Ng, Chong and Du, 2010; Woo et al., 2008). Yet, calls for cross-cultural attitude-based research on consumers’ superstitious beliefs continue (Block and Kramer, 2009; Wang, Oppewal and Thomas, 2014).

To heed these calls and help establish a general model for such beliefs, this study relies on survey data collected from two economically and culturally disparate countries: South Korea and the U.S. (Sung and Tinkham, 2005). Westerners value emotional independence, self-sufficiency, personal needs, and privacy. They focus on the positive outcomes of their actions and espouse competition, self-reliance, and hedonism (Triandis, 1994), giving rise to importance placed on self-actualization (Singelis, 1994). In contrast, East Asians stress group harmony, emotional dependence, teamwork, and unity (Sung and Tinkham, 2005). They value the collective over the individual and fancy sociability, family integrity, respect for tradition, and interdependence; hence, the importance of the Confucian tradition (e.g., Kang, 2004). Such cross-cultural studies of superstition help marketers gain a clearer understanding of consumers’ attitudes, preferences, and behaviors (Marques, Leite, and Benvenuti, 2012).

Extending prior research on intrinsic religiosity (Essoo and Dibb, 2004), superstition (Mowen and Carlson, 2003), and astrology (Mitchell, 1995), this research draws from the experiential consumption (Holbrook and Hirschman, 1982) and attitude process (Fazio, 1986) literatures to model consumers’ superstitious beliefs. Under experiential consumption theory, participation in fancied experiences engenders strongly favorable responses from consumers (Holbrook and Hirschman, 1982; Holbrook, Lehmann, and O’Shaughnessy, 1986). As information processing theories posit consumers delight in “thoughts”—whether imaginings, dreams, expressions, or feelings (Bettman, 1970)—superstition-related modeling should tend to test positive effects because superstition-related activity may entail highly interactive, valued, and joy-filled experiential
consumption, especially when the superstition seemingly ‘works’ (e.g., blackjack player holding a lucky rabbits foot ‘wins big’). In this regard, the experiential value of calling on superstitious beliefs may produce happiness that augments social relations and personal identity (Gilovich, Kumar, and Jampol, 2015).

The exposition unfolds as follows. First, the two theoretical frameworks grounding this research are discussed, followed by a review of the religiosity, superstition, and astrology literature. After presenting six hypotheses, two survey-based studies with Korean (Study #1) and U.S. (Study #2) respondents are described and summarized. The exposition concludes with a general discussion, managerial implications, study limitations, and future research directions.

**Theoretical Background**

**Experiential Consumption**

Phenomenological in makeup, the experiential view of consumption entails feelings, fantasies, and fun as part of the exchange process. Prominent in superstition-laden settings, this consumptive breed is a subjective condition in which hedonic responses, symbolic meanings, and esthetic criteria are experienced and assessed (Holbrook and Hirschman, 1982). Researchers have applied this framework to online purchases (Andrews et al., 2007), casino gaming (Cotte, 1997), as well as interactive museums and theme parks (Bigné, Mattila, and Andreu, 2008). Moreover, being superstitious creates distinct experiential consumptive experiences brimming with attitudinal and belief-espoused responses (Mowen and Carlson, 2003).

Prosumers who lace superstitions into co-created experiences—such as partaking in superstitious rituals to ‘produce’ either a favorable outcome for an adored team or an unfavorable outcome for a loathed rival—enhance their enjoyment (Sierra and McQuitty, 2005). The resulting connectedness with like-minded fans boosts enjoyment in ‘being superstitious’ (Gilovich, Kumar, and Jampol, 2015). Experiential superstitious consumption—grounded in involvement, excitement, communal connection, and social bonding—promotes planning, enjoying, and recalling experiences. Although consumers’ attitudinal responses in experiential consumption settings are important to marketers (Chronis, 2005; Gazley, Clark, and Sinha, 2011), knowledge about such responses is incomplete (Wikström, 2008).

**Attitude Process Theory**

An attitude can be (1) an instinctive, unavoidable, and reflection-devoid automatic activation, or (2) a controlled activation necessitating consideration, replete with reflection (Hill, 1994). These unconsciously (type 1) or consciously (type 2) formed attitudes induce representative attitudinal memories fostering associations toward entities, ultimately influencing attitude accessibility (Fazio, 1986). For more religious persons, mere exposure to a bible verse may trigger unconscious processing and easy memory retrieval; in contrast, lesser religious persons may require greater reflective effort to retrieve an attitude based on this same text (Hill, 1994). Attitudes activated automatically may be less influenced by strategic communication (Hill, 1994).
Attitude process theory conceptualizes attitude as an association between an entity and an assessment of that entity. At times, such assessment requires controlled activation, attention, and reflection (Fazio, 1986), which often is evinced in people’s religious weltanschauung. As religious experience and belief mesh with attitudes in other domains, examining attitudinal response in a religious milieu is fitting yet understudied (Hill, 1994).

The religion milieu often is overlooked in attitude research (Abelson, 1988). Recognizing these conceptual and empirical deficiencies, attitude process theory pertains to the models tested here, as attitudes are fundamental to religious experience and conviction (Hill, 1994).

**Literature Review**

**Religiosity Literature**

Intrinsic religiosity—the extent to which beliefs in certain religious values and ideals are internalized and practiced (Essoo and Dibb, 2004; Gorsuch and McPherson, 1989)—can influence people’s dispositions and behaviors. Psychological research suggests religiosity bolsters self-perception (Sedikides and Gebauer, 2010). Intrinsic religiosity positively affects self-control and moral identity internalization (Vitell et al., 2009), and coping strategies mediate the relationship between intrinsic religiosity and competence (Hathaway and Pargament, 1990).

Marketing scholars have related religiosity to personal characteristics and switching tendencies. For example, casual religiosity correlates positively with greater trendiness (e.g., attaching greater importance to brand names and propensity for buying high-end brands) and innovativeness (e.g., willingness to try new products and reduced brand loyalty) (Essoo and Dibb, 2004). Studies on religiosity and loyalty are consistent; for example, greater religiosity correlates with reduced brand- and store-switching tendencies (Choi, 2010) and religiosity and service brand loyalty correlate positively (Siala, 2013). In an ethics context, more intrinsically religious consumers have more negative attitudes and are less likely to buy from firms running ads with sexual appeals (Putrevu and Swimberghek, 2013).

**Superstition Literature**

Three often-studied aspects of superstition are consumer characteristics, determinants, and outcomes. For *consumer characteristics*, positive correlates of superstitious rituals and beliefs include agreeableness and neuroticism; negative correlates consist of internal locus of control, openness, and expertise (Peng, Hsiung and Chen, 2012; Rudski and Edwards, 2007; Schippers and Van Lange, 2006; Tobacyk, Nagot and Miller, 1988).

For *determinants*, event importance, low levels of control, negative emotion, psychological stress, and uncertainty levels boost superstition proclivity (Dudley, 2000; Keinan, 1994; Rudski and Edwards, 2007; Schippers and Van Lange, 2006; Whitson and Galinsky, 2008), whereas attending church and preparing for athletic competition and scholastic exams negatively affect superstition propensity (Rudski and Edwards, 2007; Torgler, 2007). Additional superstition precursors include belief
For outcomes, superstitious beliefs relate positively to gambling behaviors (Mowen, Fang and Scott, 2009), feng shui–related concerns (Peng, Hsiung and Chen, 2012), and irrational decision making (Block and Kramer, 2009). Consumers without previous product experience may rely on superstitions to select a brand (e.g., ‘brand’s package is green and green is my lucky color’). Favorable predispositions toward fortune-tellers, lucky charms, magic, and rituals boost sensitivity to brand logos, but fate beliefs reduce such sensitivity (Wang et al., 2012). Novelty seeking correlates negatively with passive superstitious beliefs (e.g., belief in fate) and positively with proactive superstitious beliefs (e.g., carrying a lucky charm) (Hernandez et al., 2008).

Superstitious-related numerology has received considerable research attention. For example, among Chinese, ‘3’ (rhymes with Cantonese for ‘growth’ and ‘alive’), ‘6’ (rhymes with Cantonese for ‘wealth’), ‘8’ (rhymes with Cantonese for ‘to generate wealth’), and ‘9’ (rhymes with Cantonese ‘to be sustained and long-lived’) portend good luck; whereas ‘4’ (rhymes with Cantonese for ‘death’) signifies bad luck. Numerology influences pricing strategies and buyer behavior; for example, pre-owned condos in Chengdu and Hong Kong sell at higher prices and newly built condos sell more swiftly if located on a floor ending in ‘6’ or ‘8’ (Chau, Ma and Ho, 2001). Consumers with a phone number containing more ‘8s’ are more likely to purchase a condo on a floor ending in ‘8’ (Shum, Sun and Ye, 2014). Chinese residents in Auckland, Singapore, and Vancouver pay a premium price for houses with an address ending in a lucky number (especially ’8’) and a discounted price if ending in ’4’ (Agarwal et al., 2014; Bourassa and Peng, 1999; Fortin, Hill and Huang, 2013; Ho, 2008). In Hong Kong, government-auctioned motor vehicle license plates with an ‘8’ sell at a premium and a ‘4’ sell at a discount (Chong and Du, 2008; Ng, Chong and Du, 2010).

Astrology Literature

Astrology-related self-attribution and selective self-observation are explained by the ‘Barnum effect’ (Furnham, 1991); for example, Geminis reading about their ‘tendency to be witty’ selectively recall instances of exhibiting this trait. Zodiac sign knowledge correlates positively with beliefs about horoscope usefulness and astrological accuracy (Fichten and Sunerton, 1983). Although extraversion is unrelated to zodiac birth sign, astrology adherents scored higher on extroversion measures (Shaughnessy et al., 1990). Astrology skeptics who received favorable horoscopes develop a more positive attitude toward astrology (Glick, Gottesman, and Jolton, 1989).

Marketers can use astrology-related attitudes and behaviors to identify consumer groupings for target marketing (Mitchell, 1995). Aside from segmentation potential, these attitudes and behaviors may explain meaningful variance in leisure, beverage, and tobacco purchases. Yet, scant research relates these attitudes and behaviors to consumer psychology (Mitchell and Haggett, 1997).

Integrating the aforementioned literature streams, intrinsic religiosity (RELIG) and attitude toward finales (AFIN) (i.e., an unfavorable mindset toward finales suggests people abhor the completion of ‘prolonged enjoyed experiences’, such as reading an
entertaining novel or viewing a favorite television series) are modeled as antecedents of superstitious beliefs (SUPER), whereas attitude toward zodiac signs (AZOD) and self-assessed zodiac sign expertise (ZodEXP) are modeled as consequences of superstitious beliefs. Suspension of disbelief (SodFIC) is modeled as an outcome of attitude toward finales (AFIN). Although untested, previous research suggests these psychological constructs could be meaningful antecedents and consequences of consumers’ superstitious beliefs. Hence, marketing practitioners could apply knowledge gleaned from scholarly cross-cultural studies on consumers’ superstitious beliefs to build user-friendly and culturally-relevant brands (Wang et al., 2012).

**Model Constructs and Hypotheses**

People who score high on *intrinsic religiosity*, an essential component in psychology of religion studies (Kirkpatrick and Hood, 1990), believe and generally act in accord with their religion’s tenets (Whitley and Kite, 2010). Applicable here, religious attitudes and behaviors influence people’s superstitious beliefs (Poorsoltan, 2012); for example, stronger superstitious beliefs relate negatively to religious activities such as prayer time and church attendance, and overall greater religiosity boosts superstitious tendencies (Torgler, 2007). Furthermore, attitude process theory suggests association between entities, like religion and superstition, occasionally may require controlled activation, attention, and reflection (Fazio, 1986). Here, people may reflect on their religiosity and ultimately shun a superstitious thought based on a faith-grounded tenet. Fear of the unknown often links religious beliefs to attitude toward finales (Tsang, 2004b), as people rely on their religious faith to cope with the transience of people (e.g., friend’s impending death)—including oneself (e.g., loss of vigor related to aging)—objects (e.g., now-decrepit childhood home scheduled for razing), achievements (e.g., discounting annual award in subsequent years), and longstanding pursuits (e.g., career achievement award) (Earl, 2010). The literatures on death anxiety (Kraft, Litwin and Barber, 1987) and terror management theory (Greenberg et al., 1990; Jonas and Fischer, 2006; Solomon, Greenberg and Pyszczynski, 1991) suggest intrinsic religiosity is a coping mechanism for alleviating anxiety about finales. The attention and reflective components of attitude process theory suggest a person’s religiosity may mitigate discomfort associated with pondering finales. Thus,

**H1:** Intrinsic religiosity correlates positively with attitude toward finales.

**H2:** Intrinsic religiosity correlates negatively with strength of superstitious beliefs.

Associated with religion and finales, fear or unrest grounded in the unknown relates to superstitious beliefs, such that people rely on superstition to quell negative attitudes toward finales (Tsang, 2004b). Superstitious beliefs diminish anxiety stemming from uncertainty associated with finales such as liked performers’ retirement (e.g., musician’s final live performance), events (e.g., final game of preferred team’s season), objects (e.g., trading in a non-working car laced with nostalgic value), and experiences (e.g., watching liked actor’s last movie) (Tsang, 2004a). Here, the dread of finales may trigger a superstition-based coping mechanism, as the joy-filled experiential value of being superstitious may offset the sadness accompanying finales; thus, as people’s negativity toward finales intensifies, the strength of their superstitious beliefs increases. Thus,
**H3**: Attitude toward finales correlates positively with strength of superstitious beliefs.

Suspension of disbelief, a term coined in 1817 by Coleridge to capture readers’ suspended judgment about the narrative implausibility of a fictional work, “refers to the willingness of the audience to overlook the limitations of a medium, so that these do not interfere with the acceptance of those premises” (definitions.net, 2015). Suspension of disbelief is essential for audiences to enjoy science fiction stories, supernatural tales, superhero tales, serendipitous tales (i.e., stories turning on far-fetched coincidence), dramatic presentations (e.g., live theatre, movies), video games, animated cartoons, puppet shows, ventriloquist acts, and magic acts. Psychologically, people seemingly ‘go wholly into perceiving mode’ when they read, hear, or watch a narrative. In this mode, they shut off their system for acting or planning to act, which in turn suspends their critical faculties. By responding aesthetically and without purpose, people are ‘transported’ into the fictional tale. They cease judging the truth of what they perceive despite the capacity to step back and recognize it as fictional (Holland, 2008).

Hence, “an author's work…does not have to be realistic, only believable and internally consistent (Tvtropes.org, 2014). However, “the more a story and its characters’ emotional lives depend on a[n implausible] premise, the more [people] will want to suspend [their] disbelief—because if [they] stop believing in the premise, then the characters go with it” (Anders, 2014). In addition, people may invoke insubstantial notions to cope with the ending of a pleasurable event. For example, people’s attitude toward an advertised brand is driven by things that end, such as television programs (Muzellec, Kanitz and Lynn, 2013). Applicable here, people may seek the experiential value and joy of fiction, and thereby suspend disbelief, when forced to acknowledge finales are inevitable. Thus,

**H4**: Attitude toward finales correlates positively with suspension of disbelief.

Important to many people, horoscopes are inherent to superstition ideologies (Fichten and Sunerton, 1983; Huang and Teng, 2009). As such, superstitious beliefs help explain the routine nature of reading horoscopes (Kramer and Block, 2008). Furthermore, superstitious tendencies and belief in astrology relate positively (Carlson, Mowen and Fang, 2009; Mowen and Carlson, 2003). For example, the Chinese zodiac assumes people’s birth year dictates their fate (e.g., birth year determines felicitous mate’s birth year) (Wong and Yung, 2005). In both cases—being superstitious and espousing astrology—the underpinnings of experiential consumption are on display (e.g., feeling, fantasy, and fun); that is, people are emotional about, get lost in, and find joy in their superstitions and astrological views. Thus, stronger superstitious beliefs should relate to more favorable attitudes toward zodiac signs and greater self-assessed expertise about such signs. Hence,

**H5**: Strength of superstitious beliefs correlates positively with attitude toward zodiac signs.

**H6**: Strength of superstitious beliefs correlates positively with self-assessed zodiac sign expertise.
Methodology, Data Collection and Results

Study 1: Korean Respondents

Scale Descriptions

The questionnaire contained tailored items from six, seven-point rating scales (see Table 1): zodiac sign expertise (3 items), superstitious beliefs (7 items), attitude toward finales (4 items), intrinsic religiosity (5 items), suspension of disbelief (3 items), and attitude toward zodiac signs (4 items).

**Table 1: Scale Items**

<table>
<thead>
<tr>
<th>Scale Description</th>
<th>Items</th>
</tr>
</thead>
</table>
| Zodiac Sign Expertise (Study 1 α=0.880; Study 2 α=0.938) | • I know a lot about zodiac signs.  
• I consider myself an expert about zodiac signs and their meanings.  
• Relative to other people, I am very knowledgeable about zodiac signs. |
| Superstitious Beliefs (Study 1 α=0.813; Study 2 α=0.872) | • I believe it’s possible to jinx things or situations.  
• Good chi attracts prosperity  
• I believe in karma.  
• Some numbers are bad luck.  
• I believe in the power of lucky charms.  
• Some numbers are good luck.  
• I believe in rituals, like wearing a ‘lucky’ shirt during a game can influence game outcomes. |
| Attitude toward Finales (Study 1 α=0.764; Study 2 α=0.731) | • For things I follow, like a favorite TV show or sports team, I dread the end of each season.  
• When I reach the end of a movie I’m really enjoying, I wish it would continue.  
• I hate goodbyes.  
• I’m sad when something I’m enjoying ends because it reminds me that all things end eventually. |
| Intrinsic Religiosity (Study 1 α=0.943; Study 2 α=0.922) | • I enjoy reading about my religion.  
• It is important to me to spend time in prayer.  
• I have often had a strong sense of God’s presence.  
• I try hard to live my life according to my religious beliefs.  
• My whole approach to life is based on my religion. |
| Suspension of Disbelief (Study 1 α=0.749; Study 2 α=0.765) | • I’m often drawn into the world depicted in movies and television programs.  
• It’s more fun to watch movies or television programs when I can identify with the main character.  
• When I read a novel, I often identify with the main character. |
| Attitude toward Zodiac Signs (7-point semantic differential scale)(Study 1 α=0.938; Study 2 α=0.971) | • Unappealing/Appealing  
• Unimpressive/Impressive  
• Unattractive/Attractive  
• Overall disliking/Overall liking |

Zodiac sign expertise was evaluated with items adapted from Sierra and Hyman (2009). Recognizing extrinsic (i.e., luck believed inherent to objects (e.g., a lucky coin)) and behavioral (i.e., luck attributed to outcome-remote behaviors (e.g., knocking on wood)) components of superstition, items from Simmons and Schindler (2003) and Wiseman and Watt (2004) were used to measure superstitious beliefs. Intrinsic religiosity items were borrowed from Gorsuch and McPherson (1989), and attitude toward zodiac signs items were borrowed from Holmes and Crocker (1987). Attitude toward finales and suspension of disbelief were assessed with novel
scales pretested for domain coverage, clarity, and redundancy. Here, content and criterion validity were evaluated by a group of research experts and potential respondents, thereby validating the measurement item sets.

Data Collection Procedure

Originally constructed in English, the questionnaire was translated into Korean for Korean respondents. One bilingual expert translated the questionnaire and then another back-translated it into English to assure consistency and cross-cultural equivalence with the original instrument (Berry, 1980; Cheung and Rensvold, 1999). Items for all studied constructs were associated with a seven-point response scale. Respondents were college students attending a university in Seoul, South Korea; they received course extra credit for participating in the paper-and-pencil survey administered during a normally scheduled class. Respondents were assured anonymity.

Sample Profile

The mean age of respondents (N=206) is 23.26 (SD=2.26), with males (60%) outnumbering females. In terms of class rank, sophomores (34%), juniors (28%), seniors (23%), and freshmen (12%) comprise the sample.

Common Method Bias

Common method bias (CMB) was minimized by expunging questionnaires with uncommon acquiescence bias, avoiding item intermixing, using multiple response formats (i.e., Likert-type and semantic differential scales), and reducing priming effects by placing outcome variable measures at the questionnaire’s end (Podsakoff et al., 2003). In addition, the CFA-based multi-trait multi-method (MTMM) technique and Harman’s single-factor test were used to evaluate CMB. For Harman’s single-factor test, results of the unrotated EFA solution for PCA and MLE show a multi-factor solution and first-factor explained variance of 25.07%; CFA results also are robust. These results, along with low intra-respondent variance (Hyman and Sierra, 2012), suggest CMB did not meaningfully affect the studied relationships.

Results

Factor Structure

A measurement model was estimated with LISREL 8.72 and the 26 items comprising the six scales. Average variance extracted (AVE) for each construct, aside from SUPER (0.461), exceeds 0.50 (i.e., ZODEXP=0.854, AFIN=0.515, RELIG=0.844, SODFIC=0.569, and AZOD=0.833), providing evidence for convergent validity; also, AVE for each construct is greater than the squared correlations between each construct and other constructs, offering evidence for discriminant validity (Fornell and Larcker, 1981). Measurement model estimation produced these goodness-of-fit statistics: $\chi^2(284)=974.36$ (P=0.00), (CFI)=0.86, (NNFI)=0.84, (GFI)=0.73, (RMSEA)=0.11, and (SRMR)=0.073. Coefficient alpha for each scale ranges from 0.749-0.943.
**Measurement Equivalence/Invariance (ME/I)**

After identifying respondents’ framework for conceptualizing the constructs (i.e., CFA results for both studies), the goal was to determine if Korean and U.S. respondents conceptualized measurement items similarly (Riordan and Vandenberg, 1994). Thus, the ME/I evaluative steps suggested by Vandenberg and Lance (2000) preceded the ME/I testing procedures described in Cheung and Rensvold (1999), where change in comparative fit index (CFI) is used to assess configural factor loading invariance (Cheung and Rensvold, 2002). To show between-group invariance, each more restrictive model should produce a less than -0.01 abatement of CFI. In other words, if CFI decreases in successively restrictive models by less than 0.01 (i.e., $\Delta$CFI = -0.09), then the two models are equivalent.

Initially, the Korean and U.S. samples were merged (N=424) and the constraint-free baseline model was estimated ($\chi^2(284_{df})=1464.59$ (P=0.00), (CFI)=0.925). Then, to assess configural factor loading invariance, its restrictive model was estimated ($\chi^2(602_{df})=2222.61$ (P=0.00), (CFI)=0.847). As these results indicate, the reduction in CFI exceeds the 0.09 value suggested by Cheung and Rensvold (2002). Thus, the factor loadings between the Korean and U.S. samples are not invariant, a common occurrence in cross-cultural research when abstract constructs are studied (Tayeb, 1994).

In addition, to examine inter-responder variation in answers to items comprising model construct measures, independent samples $t$-tests were used. Results suggest data pooling is unjustified (i.e., $R_{ELIG}$—KOR [M=2.06, SD=1.44], US [M=4.17, SD=1.63], $t=14.01$, P$<0.01$; $A_{FIN}$—KOR [M=3.56, SD=1.40], US [M=4.63, SD=1.24], $t=8.30$, P$<0.01$; $SUPER$—KOR [M=3.31, SD=1.11], US [M=3.50, SD=1.32], $t=1.54$, NS P$<0.05$; $Sod_{FIC}$—KOR [M=4.13, SD=1.45], US [M=4.55, SD=1.25], $t=3.12$, P$<0.01$; $AZOD$—KOR [M=3.10, SD=1.63], US [M=3.29, SD=1.87], $t=1.05$, NS P$<0.05$; $Zod_{EXP}$—KOR [M=1.67, SD=0.93], US [M=2.09, SD=1.43], $t=3.56$, P$<0.01$). Thus, one model was examined with two differing samples.

**Structural Equation Model**

The relationships shown in Figure 1 were tested using a structural equation model with LISREL 8.72. A covariance matrix and maximum likelihood estimation were used to estimate model parameters. Missing data were handled via pairwise deletion. Model estimation produced these goodness-of-fit statistics: $\chi^2(293_{df})=1026.25$ (P=0.00), (CFI)=0.85, (NNFI)=0.84, (GFI)=0.72, (RMSEA)=0.11, and (SRMR)=0.095. Although fit index values are relatively low (Hu and Bentler, 1999), statistical power associated with the RMSEA statistic approaches 1.0, so goodness-of-fit statistics are assumed conservative (McQuitty, 2004).

Path coefficients ($P_{C}$) were used to evaluate posited relationships. The $t$-statistic associated with five of six $P_{C}$ is significant at the P$<0.05$ level or better. Specifically, $R_{ELIG}$ relates positively to $A_{FIN}$ (H1; $P_{C}=0.17$, $t=2.15$), which in turn relates positively to both $SUPER$ (H3; $P_{C}=0.30$, $t=3.17$) and $Sod_{FIC}$ (H4; $P_{C}=0.32$, $t=3.45$). Positive relationships exist between $SUPER$ and both $AZOD$ (H5; $P_{C}=0.51$, $t=4.94$) and $Zod_{EXP}$ (H6; $P_{C}=0.65$, $t=5.56$). Data indicate no effect between $R_{ELIG}$ and $SUPER$ (H2; $P_{C}=0.12$, $t=1.58$).
Figure 1: Study 1 Path Model (Korean Sample)
Key: * Not significant at the P<0.05 level (dashed line)
** Significant at the P<0.05 level
*** Significant at the P<0.01 level
Note: In the parentheses, the t-statistic is provided.

The non-significant path for H2 may be explained by R_{ELIG} indirectly affecting S_{UPER} through A_{FIN}. To test this mediation possibility, per steps outlined in Baron and Kenny (1986), four models were examined (see Table 2). Model #1 reveals a positive effect between R_{ELIG} and S_{UPER} (P<0.05), Model #2 indicates a positive effect between R_{ELIG} and A_{FIN} (P<0.05), and Model #3 signifies a positive relationship between A_{FIN} and S_{UPER} (P<0.01). When A_{FIN} is modeled as a mediator between R_{ELIG} and S_{UPER} (Model #4), the path between R_{ELIG} and S_{UPER} becomes non-significant, suggesting full mediation (Baron and Kenny, 1986).

Table 2: Study 1 Hypotheses Tests (Korean Sample)

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Model #1</th>
<th>Model #2</th>
<th>Model #3</th>
<th>Model #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: R_{ELIG} → A_{FIN}</td>
<td>0.16 (2.01)</td>
<td>0.17 (2.15)</td>
<td>0.12 (1.58)</td>
<td>0.32 (3.45)</td>
</tr>
<tr>
<td>H2: R_{ELIG} → S_{UPER}</td>
<td>0.17 (2.18)</td>
<td>0.28 (3.15)</td>
<td>0.30 (3.17)</td>
<td>0.51 (4.94)</td>
</tr>
<tr>
<td>H3: A_{FIN} → S_{UPER}</td>
<td>0.28 (3.15)</td>
<td>0.32 (3.45)</td>
<td>0.30 (3.17)</td>
<td>0.65 (5.56)</td>
</tr>
<tr>
<td>H4: A_{FIN} → Sod_{FIN}</td>
<td>0.32 (3.45)</td>
<td>0.30 (3.17)</td>
<td>0.30 (3.17)</td>
<td>0.65 (5.56)</td>
</tr>
<tr>
<td>H5: S_{UPER} → A_{ZOD}</td>
<td>0.51 (4.94)</td>
<td>0.51 (4.94)</td>
<td>0.51 (4.94)</td>
<td>0.51 (4.94)</td>
</tr>
<tr>
<td>H6: S_{UPER} → Zod_{EXP}</td>
<td>0.65 (5.56)</td>
<td>0.65 (5.56)</td>
<td>0.65 (5.56)</td>
<td>0.65 (5.56)</td>
</tr>
</tbody>
</table>

Note: In sequence, figures represent structural coefficients, t-values, and significance levels.
Study 2: U.S. Respondents

The six hypotheses and 26 items evaluated in Study #1 were retested with U.S. respondents. Offering nominal course extra credit as incentive, students enrolled in several marketing courses at a southwest U.S. university completed the questionnaire during a regularly scheduled class session. They were assured response anonymity.

The mean age of respondents (N=218) is 22.32 (SD=2.53), with gender evenly split. In terms of ethnicity, Whites (71%), Hispanics (18%), and Blacks (8%) are most represented. Regarding class rank, seniors (59%) and juniors (27%) comprise the majority of respondents.

Common Method Bias

The techniques to minimize CMB in Study #1 were employed. Again, the CFA-based multi-trait multi-method technique and Harman’s single-factor test, along with low intra-respondent variance (Hyman and Sierra, 2012), indicate no CMB concerns; the CFA results reveal valid and reliable measures and the unrotated EFA solution (for both PCA and MLE) reveals a multi-factor solution with first-factor explained variance of 28.27%.

Results

Factor Structure

A measurement model was estimated with LISREL 8.72. Aside from $A_{FIN}$ (0.418), AVE for each construct, exceeds 0.50 (i.e., $Zod_{EXP}=0.854$, $SUPER=0.502$, $R_{ELIG}=0.707$, $Sod_{FIC}=0.533$, and $AZOD=0.897$) (convergent validity); also, except for $A_{FIN}$ (AVE=0.418) and $\Phi^2$ (0.422) of $AZOD$–$Zod_{EXP}$, the AVE for each construct is greater than the squared correlations between each construct and other constructs (discriminant validity). Estimation of the measurement model produced these goodness-of-fit statistics: $\chi^2(284 df)=598.35$ (P=0.00), (CFI)=0.95, (NNFI)=0.95, (GFI)=0.83, (RMSEA)=0.071, and (SRMR)=0.063. Coefficient alpha for each scale ranges from 0.731-0.974.

Structural Equation Model

The relationships displayed in Figure 2 were tested using SEM. A COV matrix and MLE were used to estimate model parameters. Missing data were handled via pairwise deletion. Model estimation produced these goodness-of-fit statistics: $\chi^2(293 df)=669.91$ (P=0.00), (CFI)=0.94, (NNFI)=0.94, (GFI)=0.81, (RMSEA)=0.077, and (SRMR)=0.090.

The t-statistic associated with four of six path coefficients ($PC$) is significant at the P<0.05 level or better. Specifically, $A_{FIN}$ relates positively to both $Sod_{FIC}$ (H4; $PC=0.47$, $t=4.76$) and $SUPER$ (H3; $PC=0.17$, $t=2.09$), which in turn relates positively to $AZOD$ (H5; $PC=0.56$, $t=7.21$) and $Zod_{EXP}$ (H6; $PC=0.52$, $t=6.59$). Data indicate no effect between $R_{ELIG}$ and $A_{FIN}$ (H1; $PC=0.10$, $t=1.27$) or $SUPER$ (H2; $PC=-0.01$, $t=-0.14$).
Figure 2: Study 2 Path Model (U.S. Sample)
Key: * Not significant at the P<0.05 level (dashed line)
** Significant at the P<0.05 level
*** Significant at the P<0.01 level
Note: In the parentheses, the t-statistic is provided.

In addition, we ran a converged model (N=424) using both Korean and U.S. data (see Table III). The fit indices for this model are poor, which conform to known cultural dissimilarities between these respondent groups. As such, data pooling is not justified. Furthermore, path variation exists between the converged model and both the Korean and U.S. models. Hence, these dissimilar models square with previously reported inter-cultural differences.

Table 3: Model Comparison

<table>
<thead>
<tr>
<th>Path</th>
<th>Study 1 Korean Sample</th>
<th>Study 2 U.S. Sample</th>
<th>Converged Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: RELIG → AFIN</td>
<td>0.17 (2.15)</td>
<td>.10 (1.27) (NS)</td>
<td>.08 (1.45) (NS)</td>
</tr>
<tr>
<td>H2: RELIG → SUPER</td>
<td>0.12 (1.58) (NS)</td>
<td>-.01 (-0.14) (NS)</td>
<td>.75 (15.50)</td>
</tr>
<tr>
<td>H3: AFIN → SUPER</td>
<td>0.30 (3.17)</td>
<td>.17 (2.09)</td>
<td>-.15 (-3.69)</td>
</tr>
<tr>
<td>H4: AFIN → SodFIC</td>
<td>0.32 (3.45)</td>
<td>.47 (4.76)</td>
<td>-.34 (-5.77)</td>
</tr>
<tr>
<td>H5: SUPER → AZOD</td>
<td>0.51 (4.94)</td>
<td>.56 (7.21)</td>
<td>.59 (8.48)</td>
</tr>
<tr>
<td>H6: SUPER → ZodEXP</td>
<td>0.65 (5.56)</td>
<td>.52 (6.59)</td>
<td>.92 (18.25)</td>
</tr>
</tbody>
</table>

Fit Indices

<table>
<thead>
<tr>
<th>Fit Indices</th>
<th>Study 1</th>
<th>Study 2</th>
<th>Converged Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$/df</td>
<td>3.50</td>
<td>2.28</td>
<td>12.58</td>
</tr>
<tr>
<td>CFI</td>
<td>.85</td>
<td>.94</td>
<td>.77</td>
</tr>
<tr>
<td>NNFI</td>
<td>.84</td>
<td>.94</td>
<td>.75</td>
</tr>
<tr>
<td>GFI</td>
<td>.72</td>
<td>.81</td>
<td>.60</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.11</td>
<td>.077</td>
<td>.165</td>
</tr>
<tr>
<td>SRMR</td>
<td>.095</td>
<td>.090</td>
<td>.20</td>
</tr>
</tbody>
</table>
Discussion

To add excitement to daily living and swell experiential consumptive value to exchange settings (Gilovich, Kumar, and Jampol, 2015), consumers across cultures often embrace superstitions such as fetishes (i.e., objects perceived to have magical powers) (Fernandez and Lastovicka, 2011), lucky charms (Kramer and Block, 2008), and supernatural explanations (Simmons and Schindler, 2003). Despite personal superstitions’ social, relational, and economic importance, marketing scholars have yet to fully explore them. Here, experiential consumption theory (Holbrook and Hirschman, 1982) and attitude process theory (Fazio, 1986) provide the basis for an explanatory model of superstition beliefs.

The posited model assumes intrinsic religiosity serves as a precursor of, and indirectly affects, superstitious beliefs via attitude toward finales. For Korean respondents, attitude toward finales fully mediates this relationship; yet, this effect vanishes for U.S. respondents. One possible explanation for this result: Westerners’ self-sufficiency in their quest for self-actualization represents a ceaseless drive whereby the next accomplishment or life goal is sought continually. Thus, minimal attention is paid to attitude toward finales, as the next goal is always within reach. For both respondent sets, attitude toward finales positively influences suspension of disbelief (i.e., people predisposed to suspending critical thought about fictional narratives find finales more problematic). This finding is consistent with consumers’ magical thinking, whereby suspension of disbelief may serve as a means to cope with life by blurring fantasy and reality (James, Handelman and Taylor, 2011). Therefore, empirical credence to the attitude toward finales construct is offered, suggesting additional quantitative and/or interpretive inquiry is needed.

For Korean and U.S. respondents, superstitious beliefs relate positively to both attitude toward zodiac signs and self-assessed expertise about zodiac signs. Astrological beliefs are influenced by extrinsic and behavioral-related superstitious tendencies. As attitude acquisition is vital to understanding attitude structure and change (Olson and Mitchell, 1975), results reported here suggest how superstitions influence people’s worldview. Because astrology adherents use zodiac-based rationales to make political and business decisions (Mitchell, 1995), these results suggest how the experiential consumptive nature of superstitious beliefs alters life outlook and consumption choices by heightening people’s elation, involvement, and social connectedness.

The results from this cross-cultural investigation serve as benchmarks for understanding the antecedents and consequences of superstitious beliefs. Establishing effect sizes helps theory progress and research streams mature (Peterson and Jolibert, 1995). Data collected for these studies offer effect size perspicacity, which should help researchers evaluate and compare superstition-based models for customer relationship management and brand development. For example, with model fit being more robust for U.S. than Korean respondents, intertwining the experiential consumption and attitude process theory frameworks to explain determinants and consequences of superstitious beliefs seems better suited for Western than Eastern consumers. With these differential effect sizes now known, future inquiry can generalize such findings.
Managerial Implications

To improve brand development, customer relationship management, and socially-responsible initiatives, marketers should study consumers’ superstitious beliefs and tendencies (Wang et al., 2012). This research shows attitude toward finales fully mediates the relationship between intrinsic religiosity and superstitious beliefs for Korean respondents. However, this mediation effect did not hold for U.S. respondents, who only supported the path between attitude toward finales and superstitious beliefs. In addition, attitude toward finales and suspension of disbelief relate positively for both respondent pools. Hence, an effective social-media-based and/or traditional promotional strategy in either Korea or the U.S. could allude to life’s ephemeral and seemingly irrational nature (e.g., Google’s recent ‘play your heart out’ digital content store ad campaign). As consumers’ anticipated elation about purchases relates positively to purchase intention (Sierra and Hyman, 2009, 2011), marketing practitioners should encourage anticipated consumption-related elation among increasingly fictive consumers (e.g., imagining an incredible family vacation pre-departure, the purchase of the perfect gift for a loved one, or a quintessential setting and outcome for a marriage proposal).

For Korean and U.S. respondents, data show positive effects between superstitious beliefs and both attitude toward zodiac signs and self-assessed zodiac sign expertise. As attitudes toward and importance placed on astrology influence people’s political and business decisions as well as firms’ strategies for identifying and appealing to targeted consumers (Mitchell, 1995), advertisers might benefit from an ad campaign meant to engender favorable responses toward astrology. For example, per Anheuser-Busch InBev’s recent Bud Light ad campaign (i.e., ‘It’s Only Weird If It Doesn’t Work’), depicting fans’ superstition rituals fondly can endear consumers guilty of such practices. Mimicking this promotional blueprint may help marketers spawn harmless superstitions, via a ‘stars are aligned’ perspective that boosts product/brand-related attitudes and sales (Mayo and Mallin, 2014; Poorsoltan, 2012; Tsang, 2004a, b).

Although the experiential consumptive nature of superstition may entertain many people, ethical marketers cannot ignore the prospect that superstitious beliefs can lead to detrimental outcomes, such as a superstitious moderate-income retiree’s belief that a lucky charm eventually will reverse a lottery losing streak that jeopardizes his/her financial well-being. Similarly, more superstitious South African taxi drivers drive less carefully and incur more car accidents than their less superstitious counterparts (Peltzer and Renner, 2003). Ethical marketers must recognize that being superstitious may degrade a person’s quality of life. In this sense, consumers may overly evaluate the association of entities, as conceptualized in attitude process theory (e.g., inability to find a lucky four-leaf clover to produce favorable outcomes), leading to futile searches for good omens, entities, or symbols. Hence, promotional efforts should discourage people from relying on superstition alone.

Policymakers also should heed people’s superstitious behaviors. As noted previously, numerological beliefs can distort real estate prices relative to general market conditions (Shum, Sun and Ye, 2014); thus, property valuations (and concomitant property taxes) based on prior sales should be adjusted accordingly. For example, state governments should discourage unaffordable lottery ticket purchases by probability-naïve players; in this case, lottery ads should deter consumers from buying...
tickets instead of life necessities based on beliefs about ‘lucky numbers’ and ‘hitting the big one’. Hence, such ads should depict lottery play as ‘fun in experience’ rather than ‘fun in winning’. Similar communicative strategies pertain to other luck-laden and risk-filled exchanges such as sports books and Black Friday deals.

Limitations and Future Research Directions

This research is not limitation-free. For example, although cross-cultural data were used to explain outcomes of intrinsic religiosity and explore determinants and consequences of superstitious beliefs, greater generalizability of findings necessitates data from non-students and other cultures (e.g., Europe, South America) (Winer, 1999). In addition, the established and novel measurement scales’ psychometric properties may vary by context, which could affect the interrelationships studied here. Furthermore, findings should be interpreted cautiously, as model fit for the Korean sample was somewhat low and the between-sample factor loadings are not invariant, suggesting Korean and U.S. respondents differed in their conceptualization of measurement items.

To offer further insight into intrinsic religiosity, superstitious beliefs, and astrology, other psychographic and behavioral factors could be modeled, such as willingness to incur uncertainty, locus of control, intention to purchase luck-laden products, and/or variety seeking. Future research could examine correlates of superstitions meant to bring good luck or fend off bad luck (Block and Kramer, 2009). Determinants of conditioned superstition (i.e. irrational association of purchases with positive or negative outcomes) (Hamerman and Johar, 2013) seem worthy of inquiry. The role of situational context on religiosity, superstitious beliefs, and astrology also merits attention; for example, how might the posited model apply to fans at a sporting event, gamblers in a casino, or shoppers searching for the perfect gift? To boost the posited ‘attitude toward finales’ scale’s generalizability, items pertaining to life events (e.g., end of career) should be applied in diverse contexts.

References

Berry, J. (1980), “Introduction to methodology”, in Triandis, H. and Berry, J. (Eds.), The Handbook of Cross-Cultural Psychology, Allyn and Bacon, Inc., Boston, MA, pp. 1-
29.


Triandis, H.C. (1994), “Major cultural syndromes and emotion”. In Kitayama, S. and Markus,


