24-HOUR ONLINE SHOPPING: A STUDY IN INDIAN COLLEGE ONLINE SHOPPERS

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ABSTRACT

Online shopping is becoming increasingly popular around the globe. However, previous research has paid only limited attention to online marketing strategies according to different times of the day. The present study seeks to fill this gap by investigating the effects of diurnal preferences on online shopping satisfaction, attitudes and intention based on self-congruency theory. It was found that consumers with earlier sleep and wake times demonstrated greater sensitivity to financial and privacy risks while also expressing greater satisfaction with, possessing more positive attitudes toward, and exhibiting higher intention to use online shopping. These findings suggest that consumers shopping in the morning, afternoon, or evening have different needs that require different marketing and sales strategies to be met. Theoretical and managerial implications are therefore suggested.

Keywords: Eveningness-Morningness, Online Shopping, Perceived Risk.

INTRODUCTION

Online shopping has become increasingly popular, with global online retail sales estimated to increase from 7.4% of total retail spending in 2016 to 8.8%, or $2,489trillion US dollars, in 2018 (Saleh, 2017). Online retail sales in developed countries constitute a significant portion of the international retail market: of the total retail sales in 2017, the UK represented 15.6%, Norway 11.5%, Finland 10.8%, and South Korea 10.5% (Saleh, 2017). With the advance of digital devices and social media, developing countries have yielded the fastest growth in online retail sales. China alone is estimated to grow from representing 12% of total online retail sales in 2015 to 16.6% in 2018 (Saleh, 2017). India is estimated to grow from 1.7% in 2015 to 4.8% in 2019 (Images Retail Bureau, 2016).

Online shopping has gained increased popularity because of its convenience. Consumers can easily compare prices and access consumer reviews (Lifewire, 2017). They can also shop in a low-pressure environment while saving time, fuel, money, and energy (Ebay, 2017). Additionally, online shopping can offer more product choices to consumers (Lifewire, 2017). Online stores can also provide 24/7 availability, an advantage that is highly regarded by retailers (Ebay, 2017). Consumers can shop at their own pace and convenience online, allowing retailers to better meet their needs (Ebay, 2017). However, research investigating online shopping during different periods of the day is limited, despite the importance of 24/7 availability in online shopping. Given that 70% of the total online shoppers were aged 18-35 years old in India (Livemint, 2017), in which college students were popular online shoppers constituting an attractive market segment (Vaidya, 2017), the present study investigated the effects of diurnal preferences on customer satisfaction, attitudes toward, and intention to use online shopping in Indian college online shoppers.

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THEORETICAL FRAMEWORK

Self-congruency theory posits that consumers prefer products/brands/services that are congruent with their own self-image (Belk, 1988; Forehand et al., 2002; Graeff, 1996; Kressmann et al., 2006; Sirgy, 1986; Sirgy et al., 1997) because these products/brands/services better express and symbolize their own personality traits and desires (Liu et al., 2012; McEnally & De Chernatony, 1999). Individuals normally have positive feelings about products/brands/services that project images closely matching their own personality traits; therefore, consistency in these images maintains those positive feelings, reduces uncertainty, and enhances the predictability of a consumer's use and purchase of products/brands/services (Markus, 1977; Swann, De La Ronde, & Hixon,1994).

Consumers tend to avoid using or purchasing products/brands/services that lie beyond "who they are" in their self-schema (Aaker, 1999). This schematic motive manifests itselfas a stronger preference for the image of those products/brands/services that are congruent with consumers' personality traits (Linville & Carlson, 1994; Tepeci, 1999) because this preference can consolidate and enhance self-concepts (Sirgy, 1982; Zinkhan & Hong, 1991).

The self-concept of an individual can be considered a continuum, ranging from ideal, actual, or social to the ideal social self (Tajfel & Turner, 1985). The actual self refers to how a consumer sees himself/herself, while the ideal self refers tohow a consumer would like to see himself/herself, and the social self refers to how a consumer thinks others perceive him/her. Conversely, the ideal social self refers to how a consumer would like to be seen by others (Belch & Landon, 1977; Sirgy, 1982).

Self-congruence (products/brands/services that match self-image) enhances consumer attitude, satisfaction, intention to purchase, and use of self-services (Achouri & Bouslama 2010; Ekinci & Riley, 2003; Jamal & Al-Marri, 2007; Pradhan, Duraipandian, & Sethi, 2016). Conversely, self-incongruence (products/brands/services that do not match self-image) triggers negative self-image and avoidance of certain products, brands, or services (Hogg & Banister, 2001; Neale, Robbie, & Martin, 2016). Furthermore, self-congruence affects store choices and shopping experiences (Ha & Im, 2012; O'Cass & Grace, 2008). This study employs self-congruency theory as a framework to predict the effect of diurnal preferences on the relationship between perceived risk, attitudes toward, satisfaction with and the use of online shopping.

LITERATURE REVIEW

Diurnal Preferences

All individuals demonstrate different diurnal preferences termed *morningness* or *eveningness*, or simply *morningness-eveningness*, which refers to the spectrum of human circadian rhythms (Susman et al., 2007). Individuals who demonstrate a morningness preference prefer to go to sleep early at night and wake early in the morning, while those demonstrating an eveningness preference prefer to stay up late and wake later in the morning (Urbán, Magyaródi, & Rigó, 2011). Morningness individuals are most alert in the morning hours, whereas eveningness individuals are most alert in the afternoon or evening (Randler, 2008a). This biological clock is thought to be set according to genetic, psychosocial, and contextual factors (Susman et al., 2007). An estimated 40% of the population exhibit extreme morningness or eveningness, while 60% of the population, termed *intermediate-type* individuals, can be classified between morningness and eveningness (Mongrain, Lavoie, Selmaoui, Paquet, & Dumont, 2004).

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Diurnal preference is considered a stable characteristic in humans. It is affected neitherby ethnicity nor socioeconomic status (Paine, Gander, & Travier, 2006), but by a range of physiological, psychological, and social factors (Czeisler & Buxton 2010; Monk, 2005; Turek, 2000) such as circadian rhythms, homeostatic processes, light intensity, and work schedule (Czeisler & Buxton 2010; Monk, 2005; Zlomanczuk & Schwartz, 1999). Diurnal preferences are also related to adolescent behavior (Goldstein, Hahn, Hasher, Wiprzycka, & Zelazo, 2007), drug use and smoking habits (Díaz-Morales & Sánchez-López, 2008; Nakade, Takeuchi, Kurotani, & Harada, 2009; Wittmann, Paulus, & Roenneberg, 2010), food intake (Randler, 2008a), health-related behaviors (Schaal, Peter, & Randler, 2010), perceptions of one's health (Paine, Gander, & Travier, 2006), and physical activity or inactivity (Schaal, Peter, & Randler, 2010). Diurnal preferences are related to different aspects of human behavior and, by extension, online shopping intention.

Intention to Use Online Shopping

The *intention to use* online shopping refers to how likely a customer is to patronize an online store again in the future (Chen, Chen, & Chen, 2009; Frambach, Herk, & Agarwal, 2003). Previous research has found that personalization (Ho & Bodoff, 2014; Pappas, Kourouthanassis, Giannakos, & Chrissikopoulos, 2016), message quality (Mun, Yoon, Davis, & Lee, 2013), shopping benefits (Xu, Dinev, Smith, & Hart, 2011; Lee, 2009), trust (Beldad, Jong, & Steehouder, 2010), and positive emotions (Kuo & Wu, 2012, Pappas et al., 2016; Verhagen & van Dolen, 2011) are antecedents to the continued use of online shopping. Cultivating factors that drive repeated use of online shopping in the form of retained customers can be more cost-effective for managers than acquiring new customers (Bhattacherjee, 2001).

Attitudes toward Online Shopping

Positive attitudes can enhance the use of and increase purchases from online retailers (Amaro & Duarte, 2014; Hsu, Yeb, Chiu, & Chang, 2006). Customers form attitudes, or the degree of favor or disfavor to a service (Dolharker & Bagozzi, 2002), from the evaluation of many different elements (Andreassen, 2001; Eastlick, Ratto, Lotz, & Mishra, 2012). Drivers of positive attitudes toward online shopping include detailed product descriptions (Kim & Lennon, 2008), online shopping knowledge and experience (Soopramanien, 2011), perceived benefits (Lee, 2009), and quality visual graphics. When customers have accumulated experience using a service, they can form a global attitude toward it (Parasuraman, Zeithaml, & Berry, 1994). Once a customer has formed a positive or negative attitude toward a company, product, or service, it is difficult to change (Curran, Meuter, & Surprenant, 2003).

Satisfaction with Online Shopping

Satisfaction is a psychological evaluation process in which the interaction between a consumer's expectation and service/product performance affects the consumer's attitudes (Chen, 2005; Lee & Joshi, 2006). When the performance is higher than the expectation, the customer will feel satisfied; if the reverse is true, he or she will feel dissatisfied (Chen, 2005). Understanding the antecedents to satisfaction is important as satisfaction is a driver of consumer loyalty (Yang & Peterson, 2004; Ju Rebecca Yen & Gwinner, 2003) as well as

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continued use of retailers (Marzocchi & Zammit, 2006), services (Cronin, Brady, & Hult, 2000), and technologies (Wang, 2012). In online shopping environments, factors that affect satisfaction include customer service, delivery performance, information quality, merchandise attributes, product variety, reliability, transaction capability, and website design (Alam & Yasin, 2010; Lin & Sun, 2009; Liu, He, Gao, & Xie, 2008; Luo, Ba, & Zhang, 2012).

Perceived Risk and Online Shopping

When uncertainty arises, customers are likely to perceive risk (Forsythe & Shi, 2003; Michell & Harris, 2005). *Perceived risk*, defined as potential loss when desired outcomes are pursued (Ko et al., 2010), is a multidimensional construct. (Zhao et al., 2008) proposed eight dimensions of perceived risk: financial, psychological, performance, psychosocial, time/convenience, security, privacy, and physical. Because customers by and large do not have the opportunity to examine products nor engage in face-to-face interaction with sales persons in an online environment (Laroche, Yang, McDougall, & Bergeron, 2005), they might experience fear as to whether they will receive the right products and services (Mitchell, 1999). Customers may also perceive online payments as potentially insecure (Salo & Karjaluoto, 2007). Consumers thus perceive online shopping environments as carrying greater risk than offline retail stores (Lee & Tan, 2003).

Financial risk refers to the possibility of losing money and *privacy risk* refers to personal data becoming known or misused (Zhao et al., 2008). Previous studies have indicated that diurnal preferences are related to financial risk taking (Wang & Chartrand, 2015). As online monetary transactions inevitably involve the exchange of personal data (Liao, Liu, & Chen, 2011), both financial and privacy risks are taken into consideration in the present study. Given that perceived risks negatively influence intention to use (Chen & Chang, 2005; Faqih, 2011, 2013; Park, Lennon, & Stoel, 2005; Vijayasarathy & Jones, 2000), satisfaction with (Liu et al., 2008), and attitudes toward online shopping (Wu & Ke, 2015), we hypothesized that

H_1: *Perceived risk (financial and privacy risks) is negatively associated withsatisfaction with online shopping.*

H_2: *Perceived risk (financial and privacy risks) is negatively associated withattitudes toward online shopping.*

H_3: *Perceived risk (financial and privacy risks) is negatively associated withintention to use online shopping.*

Diurnal Preferences, Satisfaction with, Attitudes toward, and Intention to UseOnline Shopping

Individuals with earlier sleep and wake times normally feel more satisfied with (Randler, 2008b; Jankowski, 2012; Díaz-Morales, Jankowski, Vollmer, & Randler, 2013)and display a more positive attitude toward life (Randler, 2011). They also perceive to have more consistent and healthier lifestyles while also tending to experience less psychological disturbances (Monk, Buysse, Potts, DeGrazia, & Kupfer, 2004; Randler, 2008b). Consumers consider online shopping a healthier lifestyle choice (Kim & Davis, 2009; Swinyard & Smith, 2003), which is more congruent with the self-concepts of individuals sleeping and waking

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earlier than others. Thus, individuals with earlier sleep and wake times are expected to experience higher levels of self-congruence than individuals with later sleep and wake times based on the self-congruency theory (Sirgy, 1982; 1986). This, in turn, enhances their satisfaction with, positive attitudes toward, and the use of online shopping. Hence, it was hypothesized that:

H_4: *Morningness-eveningness is positively associated with satisfaction withonline shopping*

H_5: *Morningness-eveningness is positively associated with attitudes towardonline shopping*

H_6: *Morningness-eveningness is positively associated with intention to use onlineshopping*

Diurnal Preferences and Perceived Risk

Compared with individuals with later sleep and wake times, individuals with earlier sleep and wake times have been found to consume fewer harmful products, such as cigarettes (Wittmann, Dinich, Merrow, & Roenneberg, 2006) and psychoactive drugs (Fleig & Randler, 2009). They have also been found to be low in novelty-seeking, less impulsive (Caci, Robert, & Boyer, 2004), and less willing to take financial risks (Wang & Chartrand, 2015). Individuals with earlier sleep and wake times are therefore less predisposed to risk-taking. Based on self-congruency theory (Sirgy, 1982; 1986), individuals with earlier sleep and wake times are expected to experience lower levels of self-congruence/higher levels of self-incongruence when encountering perceived higher risk. Consequently, satisfaction with, positive attitudes toward, and intention to use onlineshopping in individuals with earlier sleep and wake times are expected to drop faster thanin individuals with later sleep and wake times when perceived risk is increased. Individuals with earlier sleep and wake times are therefore more sensitive to perceived risk. Accordingly, it was hypothesized that Figure 1:

H_7: *Morningness-eveningness significantly moderates the relationship betweenperceived risk (financial and privacy risks) and satisfaction with online shopping*

H_8: *Morningness-eveningness significantly moderates the relationship betweenperceived risk (financial and privacy risks) and attitudes toward online shopping*

H_9: *Morningness-eveningness significantly moderates the relationship betweenperceived risk (financial and privacy risks) and intention to use online shopping*

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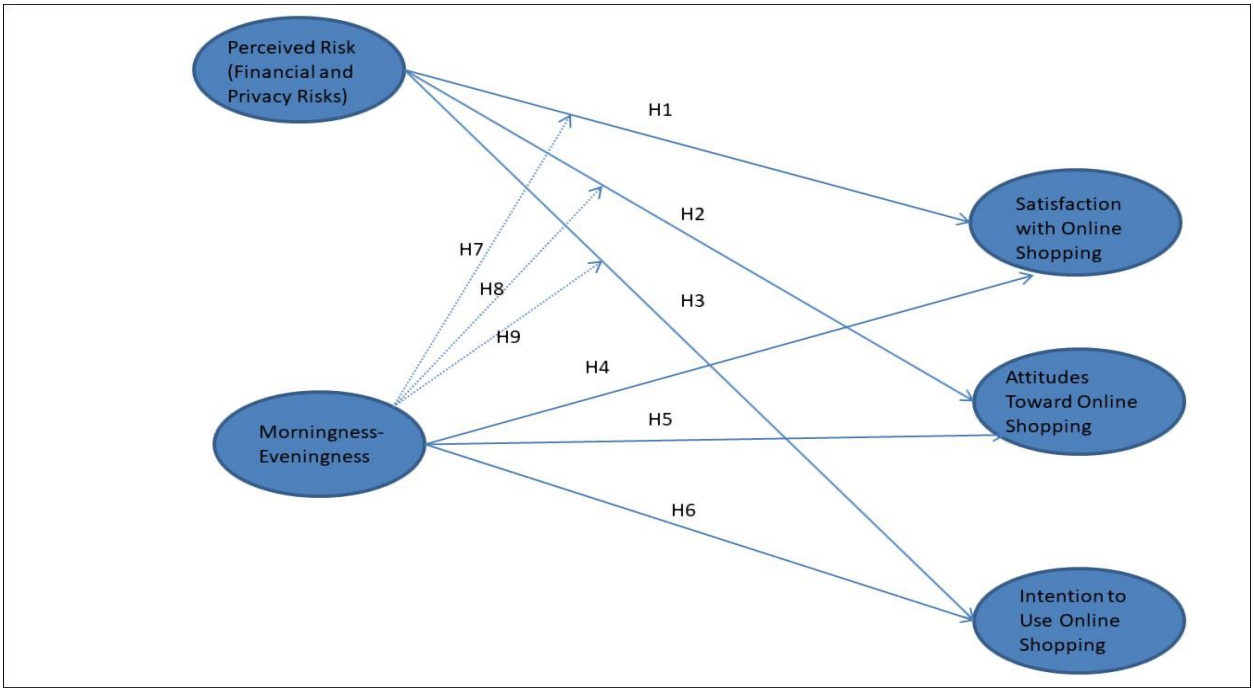

FIGURE 1
THE CONCEPTUAL MODEL DOTTED LINES (H7-9) REPRESENT THE MODERATING EFFECTS HYPOTHESIS IS ABBREVIATED AS H

METHODOLOGY

Research Design

Snowball sampling was used to collect the data. Students from two higher education institutions in India were invited to complete the online questionnaires via email and to forward them to other college students, who could then forward them to other students. This cycle was repeated until sufficient data were collected. All participants were over 18 years of age and had shopped online within the past 12 months. Two university scholars and five Indian college students evaluated the face validity of the questionnaire prior to its administration. All participation was voluntary and resulted in 463 completed questionnaires; after the data were cleaned, 410 completed questionnaires were retained. Five- and four-point ordinal scales were used to measure morningness- eveningness, while seven-point Likert scales (1 - strongly disagree, 7 - strongly agree) were used to measure perceived risk as well as satisfaction with, attitudes toward, and intention to use online shopping.

Morningness-eveningness. The morningness-eveningness scale was adapted from Terman, Rifkin, Jacobs, and White (2001), which was itself adapted from a 19-item measurement designed by Horne and Östberg (1976). Its purpose was to measure circadian rhythms Total scores ranged from 16 to 86; higher scores indicated a morningness tendency and lower scores indicated an eveningness tendency.

*Perceived risk (financial and privacy risks).*To measure perceived risk (financial and privacy risks), five items adapted from Zhao et al. (2008) were used to assess uncertainty toward and the perceived consequences of online shopping.

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Satisfaction with online shopping. To measure satisfaction with online shopping, a six- item assessment adapted from Zhao et al. (2008) was used to determine overall satisfaction with online shopping.

Attitudes toward online shopping. To measure attitudes toward online shopping, items adapted from Dabholkar and Bagozzi (2002) were used to record good/bad, pleasant/unpleasant, harmful/beneficial, and favorable/unfavorable feelings toward online shopping.

Intention to use online shopping. To measure intention to use online shopping, items adapted from Dabholkar and Bagozzi (2002) were implemented to determine the likelihood or unlikelihood of an individual continuing to use online shopping in the future.

RESULTS

Data collected consisted of 48% male respondents, 49.8% female, and 2.2% gender not specified; completed questionnaires from respondents aged 18 to over 40 (6.3% under 20, 75.6% 21-30, 11.7% 31-40, 5.3% over 40 years old) were used for analysis. The missing value for each variable ranged from 0.5% to 2.9%; thus, mean substitution was considered an efficient procedure for replacing the missing values (< 5%) (Rubin, Witkiewitz, Andre, & Reilly, 2007).

The morningness-eveningness scale was initially refined using Principle Axis Factoring (PAF). The four factors that emerged accounted for 46.56% of the total variance with eigenvalues of 3.175, 2.92, 1.63, and 1.12. Two factors were interpretable: eight items loaded on Factor 1 with factor loadings from .51 to .63 and six items loaded on Factor 2 with factor loadings from .52 to .63. After being analyzed using confirmatory factor analysis (CFA), Factors 1 and 2 yielded composite reliabilities (CR) of .73 and .65, respectively. Thus, Factor 2 had to be dropped due to low reliability (< .70) (DeVellis, 2016). The factor loadings for Factor 1 (eight items) ranged from .36 to.59 (p <.01).

The perceived risk scale (financial and privacy risks) was refined using Exploratory Factor Analysis (EFA) combined using Oblimin. All five items heavily loaded on a factor (factor loadings .87-.93) accounted for 80.82% of the total variance with an eigenvalue of 4.04. CFA was then conducted. All five items heavily loaded (factor loadings .82-.92) on a single abstract construct with t-values ranging from 21.72 to 23.90 (p <.01). Therefore, financial and privacy risks had to be combined into a single factor named *financial and privacy risk* to achieve composite reliability (.94).

Scales of satisfaction with, attitudes toward, and intention to use online shopping were refined using CFA. Six items heavily loaded on satisfaction with online shopping (factor loading .84-.90, p <.01), resulting in a composite reliability of .95; four items heavily loaded on attitudes toward online shopping (factor loadings .87-.91, p <.01), resulting in a composite reliability of .94; and four items heavily loaded (factor loadings .85-.89, p <.01)on intention to use online shopping, resulting in a composite reliability of .93. Table 1 shows the correlation matrix of constructs.

Table 1
CORRELATION MATRIX (N = 410)

Constructs	1	2	3	4	5
1. Perceived Risk (Financial and Privacy)	1.00				
2. Satisfaction with Online Shopping	-.29**	1.00			

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3. Attitudes Toward Online Shopping	-.39**	.84**	1.00		
4. Intention to Use Online Shopping	-.37**	.81**	.87**	1.00	
5. Morningness-Eveningness	-.42**	.45**	.53**	.48**	1.00
Mean	14.52	28.82	21.53	20.50	16.89
SD	7.68	6.36	5.58	5.08	3.19
Notes: Sample size =410, **p<.01, *p<.05					

The hypotheses were then tested using hierarchical multiple regression analysis (Newsom, Prigerson, Schulz, & Reynolds, 2001). The independent variable and moderator were mean centered to avoid multicollinearity issues (Aiken, West, & Reno, 1991). The assumption of multicollinearity was examined using Variance Inflation Factor (VIF) analysis. VIF values from 1.23 to 5.33 were below the cutoff value of 10; therefore, the assumption of multicollinearity was accepted (Aiken, West, & Reno, 1991).

To test Hypotheses 1 through 3, two variables (financial and privacy risk and morningness-eveningness) were first entered into the multiple regression equation. The results, shown in Models 1, 3, and 5 of Table 2, indicated that financial and privacy risk was negatively associated with satisfaction with (β = -.11, p <.01), attitudes toward (β= -.15, p <.01), and intention to use online shopping (β= -.14, p <.01). Therefore, H1, H2, and H3 were supported.

Moreover, as seen in Models 1, 3, and 5 of Table 2, morningness-eveningness was found to be positively associated with satisfaction with (β = .64, p <.01), attitudes toward (β= .63, p <.01), and intention to use online shopping (β = .51, p <.01). Therefore, H4, H5,and H6 were also supported.

Before testing the moderating effect of morningness-eveningness on the relationships among financial and privacy risk and satisfaction with, attitudes toward, and intention to use online shopping, financial and privacy risk and morningness-eveningness were included in hierarchical multiple regression analysis (see Models 1, 3, & 5 in Table 2). Financial and privacy risk and morningness-eveningness accounted for a significant amount of variance in satisfaction with online shopping, R^2 = .22, F (2,407) = 56.31 (p< .01); attitudes toward online shopping, R^2 = .31, F (2,407) = 93.06 (p < .01); and intention to use online shopping, R^2 = .27, F (2,407) = 75.24 (p < .01). The interaction term between financial and privacy risk and morningness-eveningness was then added to the regression models (see Models 2, 4, & 6 in Table 2), which accounted for a significant proportion of the variance in satisfaction with online shopping, ΔR^2 = .02, ΔF (1, 406) = 12.18 (p = .01), b = -.03, t(406) = -3.49 (p < .01); attitudes toward online shopping, ΔR^2 = .03, Δ F (1, 406) = 20.81 (p = .01), b = -.03, t(406) = -4.56 (p < .01); and intention to use online shopping, ΔR^2 = .02, Δ F (1, 406) = 11.14 (p = .01), b = -.02, t(406) = -3.34 (p < .01). Thus, morningness-eveningness significantly moderated the relationships between financial and privacy risk and satisfaction with, attitudes toward, and intention to use online shopping. Therefore, H7, H8, and H9 were supported.

Table 2
THE MODERATING EFFECT OF MORNINGNESS EVENINGNESS ON THE RELATIONSHIPS BETWEEN PERCEIVED RISK AND SATISFACTION WITH, ATTITUDESTOWARD AND INTENTION TO USE ONLINE SHOPPING

Dependent Variables		
Satisfaction with Online Shopping	Attitudes toward Online Shopping	Intention to Use

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Online Shopping															
Independent Variables **Main Effects**		Model 1	t-value	Model 2	t-value	Model 3		t-value	Model 4	t-value	Model 5		t-value	Model 6	t-value
Financial & Privacy Risk (FPS)		H1: -.11 ***	-2.65	-.12 ***	-3.04	H2: -.15	***	-4.51	-.16 ***	-5.07	H3: -.14	***	-4.48	-.15 ***	-4.86
Moderator Morningness-Eveningness (ME)		H4: .64	8.25	.63 ***	8.27	H5: .63	***	9.84	.62 ***	9.96	H6: .51	***	8.53	.51 ***	8.55
Interaction Terms FPS*ME				H7: -.03 ***	-3.49				H8: -.03	-4.56				H9: -.02 ***	-3.34
R^2		.22		.24		.31			.35		.27			.29	
F-value		56.31 ***		42.63 ***		93.06 ***			71.99 ***		75.24 ***			55.12 ***	
ΔF				12.18 ***					20.81 ***					11.14 ***	
ΔR^2				.02					.03					.02	
N=420	****p<.01*														

Further examination of the interaction plots (Figures 2, 3, & 4) suggested that satisfaction with, attitudes toward, and intention to use online shopping in consumers with earlier sleep and wake times (i.e., morningness) tended to decrease faster than in consumers with later sleep and wake times (i.e., intermediate or eveningness), whereas satisfaction with, attitudes toward, and intention to use online shopping in consumers with later sleep and wake times (i.e., eveningness) tended to decrease slower than in consumers with later sleep times (i.e., intermediate or morningness) due to the effect of financial and privacy risk.

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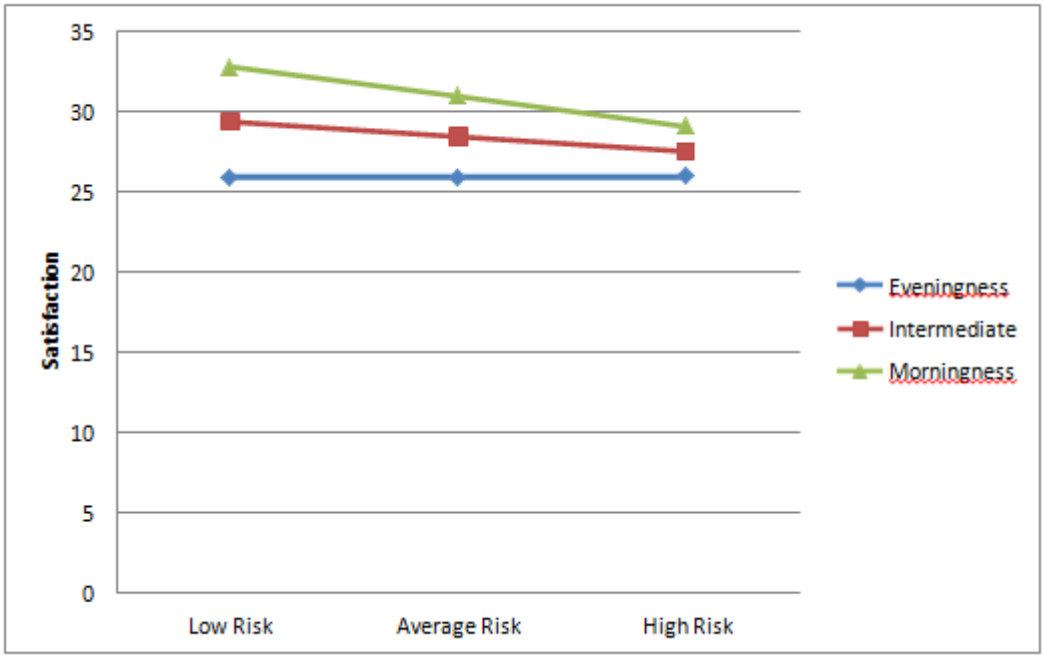

FIGURE 2
INTERACTION PLOT OF THE MODERATING EFFECT OF MORNINGNESS-EVENINGNESS ON THE RELATIONSHIP BETWEEN PERCEIVED RISK (FINANCIAL AND PRIVACY RISK) AND SATISFACTION WITH ONLINE SHOPPING. SATISFACTION WITH ONLINE SHOPPING IS ABBREVIATED AS SATISFACTION, FINANCIAL AND PRIVACY RISK IS ABBREVIATED AS RISK

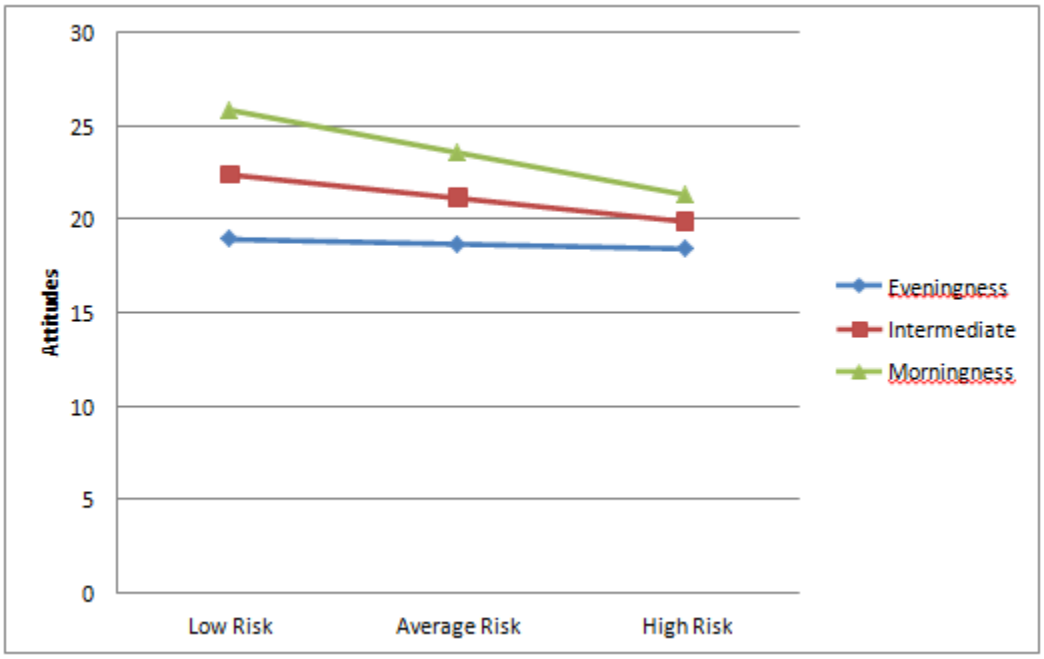

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FIGURE 3
INTERACTION PLOT OF THE MODERATING EFFECT OF MORNINGNESS-EVENINGNESS ON THE RELATIONSHIP BETWEEN PERCEIVED RISK (FINANCIAL AND PRIVACY RISK) AND ATTITUDES TOWARD ONLINE SHOPPING. ATTITUDES TOWARD ONLINE SHOPPING IS ABBREVIATED AS ATTITUDES. FINANCIAL AND PRIVACY RISK IS ABBREVIATED AS RISK

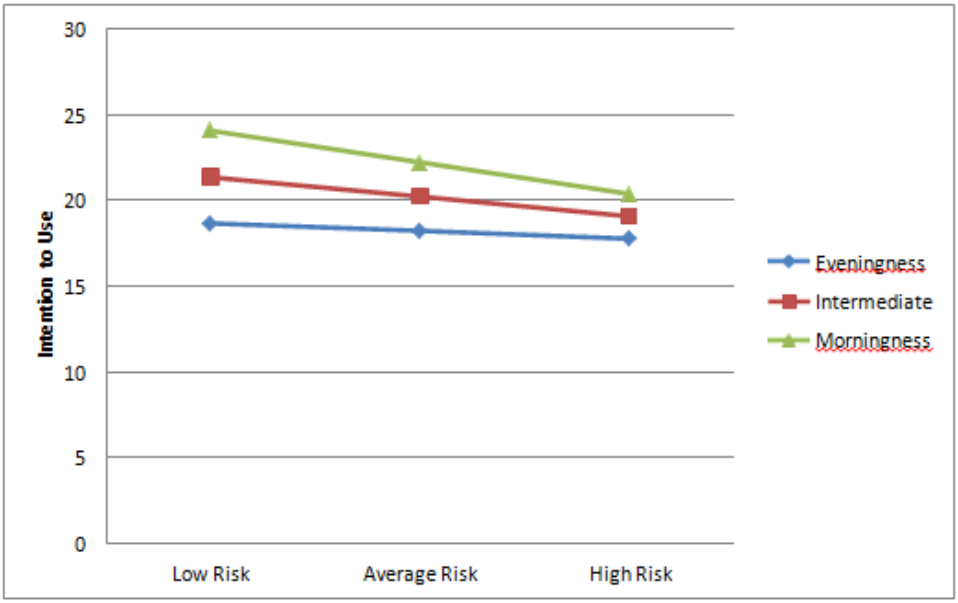

FIGURE 4
INTERACTION PLOT OF THE MODERATING EFFECT OF MORNINGNESS-EVENINGNESS ON THE RELATIONSHIP BETWEEN PERCEIVED RISK (FINANCIAL AND PRIVACY RISK) AND INTENTION TO USE ONLINE SHOPPING INTENTION TO USE ONLINE SHOPPING IS ABBREVIATED AS INTENTION TO USE. FINANCIAL AND PRIVACY RISK IS ABBREVIATED AS RISK

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DISCUSSION AND IMPLICATIONS

In response to the growing importance of online shopping, the current study sought to understand the effect of diurnal preferences on online shopping. The results indicated that customers had less intention to use online shopping when they perceived higher financial and privacy risks, which confirmed predictions informed by the research of Chen and Chang (2005), Faqih (2011, 2013), Park, Lennon and Stoel (2005), and Vijayasarathy and Jones (2000). It was also found that customers formed more negative attitudes toward (Wu & Ke, 2015) and were less satisfied with (Liu et al., 2008) online shopping when they perceived higher financial and privacy risks.

Consistent with the findings of Díaz-Morales et al. (2013), Jankowski (2012), Kim and Davis (2009), Monk et al. (2004), Randler (2008b, 2011), Swinyard and Smith (2003), and self-congruency theory (Sirgy, 1982;1986); the results revealed that consumers with earlier sleep and wake times tended to feel more satisfied with, show more positive attitudes toward, and have higher intention to use online shopping. In contrast, consumers with later sleep and wake times tended to feel less satisfied with, show less positive attitudes toward, and have lower intention to use online shopping.

However, the results indicated that consumers with earlier sleep and wake times tended to be more sensitive to financial and privacy risks than consumers with later sleep and wake times, who tended to be less sensitive to financial and privacy risks. These findings were consistent with predictions based on the research of Fleig and Randler (2009), Wang and Chartrand (2015), Wittmann et al. (2006), and self-congruency theory (Sirgy, 1982;1986).

The current study contributes new knowledge to psychological and marketing research by employing self-congruency theory to link diurnal preferences with online shopping consumer intention. The current findings suggested that the relationship between perceived risk and online shopping intention is affected by circadian rhythms. Online shopping intention did not appear to be consistent across all hours of the day, but instead differed according to type of consumer and time of day. This phenomenon has implications for online retail managerial practices, which must take these behavioral patterns into account to formulate effective marketing strategies.

While 24/7 availability is often cited as a core advantage of online retail (Ebay, 2017), the question of how to target online consumers at different times of day has not yet been answered. The present work suggests that customers in the early morning and customers late at night are two different types of customers with different online shopping preferences and, by extension, different needs. Therefore, managers should use specific marketing strategies to meet these needs. When targeting customers in the early morning, for example, they may need to emphasize the reliability and trustworthiness of online payment systems to reduce perceived financial and privacy risks (Kim, Ferrin, & Rao, 2008; Kim, Tao, Shin, & Kim, 2010). In contrast, managers targeting customers with late sleep and wake times, who were found to be less sensitive to financial and privacy risk, may choose to focus on other aspects of online shopping that ensure customer satisfaction, such as customer service, delivery performance, information quality, merchandise attributes, product variety, reliability, transaction capability, and website design (Alam & Yasin, 2010; Liu et al., 2008; Lin & Sun, 2009; Luo, Ba, & Zhang, 2012).

In contrast to online customers in the early morning or late evening, online customers in the late morning and afternoon are more versatile and exhibit attributes common to other

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types of consumer (morningness, intermediate, and/or eveningness). Therefore, it maynot be feasible to differentiate this type of customer. Online retailers may thus need to offer more personalized services when targeting these customers, such as allowing for the customization of products or services (Lee & Park, 2009).

To further enhance marketing efficiency and minimize business risk, online entrepreneurs can also launch start-up marketing campaigns that initially target consumers more likely to patronize again in the future (e.g., consumers with earlier sleep and wake times), as these customers feel satisfied and form positive attitudes more easily than other customers and are more likely to give repeat business to an online retailer. The campaigns could be gradually extended to consumers less likely to give repeat business to an online retailer (e.g., consumers with later sleep and wake times).

LIMITATIONS AND FUTURE RESEARCH

Although the present study can provide new and valuable insights regarding the effect of diurnal preferences on online shopping, it was not without limitations. Only Indian college students were recruited as participants; future research could be extended to other countries and include different groups of consumers. To further enhance the generalizability of findings, dimensions of perceived risk beyond financial and privacy risks could also be examined. Further, while the present research found different sensitivities to financial and privacy risks among consumers with early or late sleep and wake times, it was not designed to uncover the underlying mechanism(s) of such preferences. It was also not designed to determine how factors that determine circadian rhythms, such as light intensity or work schedule, affect the intention to use online shopping. Additional research is therefore needed to elucidate these factors and explore their effects on online shopping. Future research could also reveal the effect of diurnal preferences in different contexts (e.g., advertisements, products, services).

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