

## Article

# Hofstede's Collectivistic Values and Sustainable Growth of Online Group Buying

Bangwool Han  and Minho Kim \* 

Department of International Trade, College of Commerce, Chonbuk National University, Jeonju 54896, Korea; bellehan@jbnu.ac.kr

\* Correspondence: kimmh@jbnu.ac.kr; Tel.: +82-63-270-3049

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**Abstract:** This study investigates the moderating effects of consumer personality traits and the mediating effects of social influence susceptibility in consumers on the relationship between individuals' cultural orientations and intentions toward online group buying (OGB). The Big Five personality dimensions, normative social influence, and Hofstede's cultural dimensions are considered. Because understanding what motivates consumer intentions toward OGB is a major focus of firms and OGB website operators, this study contributes to the topic by identifying consumers' personality traits and levels of susceptibility to social influences, which impact OGB intentions. Findings in Study 1 reveal that consumer personality traits (e.g., agreeableness) moderate the impact of individual cultural orientations (i.e., collectivism) on intentions toward OGB. Study 2 describes the mediation process of susceptibility to normative social influences on OGB intentions. The findings from this study bridge a literature gap in the context of OGB by demonstrating how OGB site operators can improve marketing strategies, leading to increase sustainable purchase intention. The article concludes with managerial implications by providing insights for online group buying sites and firms, particularly those that target collectivistic cultural markets.

**Keywords:** online group buying; cultural orientations; personality traits; social influence susceptibility; sustainable intentions

## 1. Introduction

The Internet has enabled the rapid development of electronic commerce, creating many innovative digitizing business models. Moreover, e-commerce has based its sustainable growth upon advanced communication technologies, consequently broadening the relevance and attractiveness of online group buying (OGB). Online group buying has emerged as an essential tool for a variety of shopping activities in e-commerce, as groups comprised mainly of consumers have built online social networks that provide opportunities for price advantages. With the simplified discount model benefiting each of the three participating parties involved in OGB (i.e., firms, group buying websites, and customers), OGB has been successful and has made rapid progress in the early 21st century. Consequently, academic analysts have intensively studied the factors influencing consumer intentions toward OGB. For example, Cheng and Huang [1] identified that consumer perceptions of system characteristics determine consumers' intentions to engage in OGB, with system characteristics defined as qualities of technical processes such as perceived usefulness (PU) and perceived ease of use (PEOU) [2,3]. Similarly, Wang and Chou [4] integrated external variables in the technology acceptance model (TAM) with information quality of OGB websites, finding positive effects on purchasing frequency. Mainly, previous studies have investigated factors that influence the OGB intentions of consumers from the perspective of OGB site operations [4–7]. However, despite several existing OGB studies, a limited amount of research has investigated the consumer characteristics that affect consumer intentions for

OGB. Consumers with a highly cooperative personality have intentions to use online group buying and are more likely to participate in OGB as a form of conformity with collective goals [8,9]. In addition, the cultural orientations of individuals are useful in studying consumer personality traits, particularly in terms of consumer intentions toward OGB. This is acutely apparent in a collective cultural context wherein individuals uphold compliance with group interests as a social norm [10,11]. While studies of consumers' responses to OGB so far have focused chiefly on the system factors, to the best of our knowledge, no studies have investigated both the moderating effect of agreeableness personality and the mediating effect of subjective norm between collectivism and consumer intention with respect to OGB, even though greater understanding of this mechanism would offer valuable insights for improving customer purchase behavior and from profitability. Therefore, our study intends to extend the past research further explore the impact of these moderators on consumer intention to OGB. Table 1.

This research aims to propose a framework of personal characteristics related to consumer intentions toward OGB. Specifically, we examine individuals' cultural orientations, personality traits, and levels of susceptibility to normative social influence as antecedents for consumer intentions toward OGB. Study 1 examines how personality traits moderate OGB intentions and Study 2 shows the process by which susceptibility to normative social influence mediates consumers' intentions toward OGB. This study contributes to a growing body of knowledge regarding consumer intention to OGB in a couple of ways. Our results shed light on consumer intentions toward OGB by enhancing prior research that links personality traits with cultural values in the consumer context [8,12,13]. We also contribute to the concept of social influence susceptibility [4,14] by empirically testing the effects of associations between personal cultural orientations and consumer intentions toward OGB.

## 2. Literature Review and Hypotheses

### 2.1. Online Group Buying (OGB)

Online group buying is defined as a business model in which consumers are able to acquire products at lower prices by recruiting potential consumers to achieve sufficient order volume, thus enabling vendors to reduce costs and generate greater sales and profits [5,15]. In particular, this Internet-based business model has increased consumers' collective power in the form of online shopping, and has caused communal purchases to become a popular trend [16]. Moreover, rapid progress in information and communication technologies has facilitated consumer collaboration, which mutually benefits a large number of individuals for more effective group purchase decisions [17]. For example, with information sharing regarding the number of customers who intend to purchase online deals, consumers invite their online contacts and incorporate individual purchases into collective buying through OGB sites [18]. In particular, OGB has achieved tremendous popularity and has led to business growth in Eastern countries, wherein driving social forces are closely related to collectivist cultures [19]. According to the work of Cheung et al. [20], group buying is essentially collectivistic insofar as it emphasizes an individual commitment to cooperation and the social nature of group behavior. According to Noh et al. [21], OGB behaviors, which focus on leveraging consumers' collective bargaining power for more favorable prices, are likely to be more attractive to collectivists who prioritize the importance of group harmony in order to benefit as a whole. In particular, individuals involved in OGB activities demonstrate a sense of interdependence among members of a group, and these individuals emphasize group goals [22]. In contrast, individualism emphasizes individual self-interests. In an individualistic society, separate persons primarily function as individuals, with competition for resources being the norm [23]. Moreover, given the relationship between business models and cultural environments, traditional e-commerce models—such as business to consumer (B2C) and customer-to-customer (C2C) models—are essentially considered models of individualism, while OGB is characterized as being collectivistic [24]. For example, Yen and Chang [9] noted the importance of different cultural values in the context of OGB, claiming that collectivism influences the interactions between group buying behaviors and individual consumers. Consumer intentions toward

OGB are informed by individual cultural orientations [22], and thus, this context may help to explain the impact of personal characteristics on OGB intentions.

Recent studies have widely shown that consumers' psychological characteristics are critical in affecting buyers' OGB intentions [25]. For example, personality traits strongly influence consumer intentions toward OGB. In the context of group buying, cooperative behaviors of individual consumers are essential to obtain goods at discounted prices [26]. Naturally, a requirement for such collective buying mechanisms (in which consumers cooperate to form an aggregated consumer power for price incentives) is a group of people with agreeable/cooperative personalities. It is believed that consumers with agreeable/cooperative personality traits inherent in collective culture are more receptive to group norms than people from individualist cultures [27,28]. Similarly, OGB intentions reflect the fact that levels of susceptibility to social influence in consumers lead them to participate in OGB. This may be the result of conformity with group behavior based on collectivism.

Comprehensively, this study suggests that individual cultural orientations, personality traits, and levels of susceptibility to social influence are important antecedents of consumer intentions toward OGB. First, we present a model to explain how personality moderates OGB intentions. Second, this model highlights how social influence susceptibility mediates consumer intentions toward OGB. Figure 1 presents the theory from the perspective of consumer characteristics and OGB intentions.

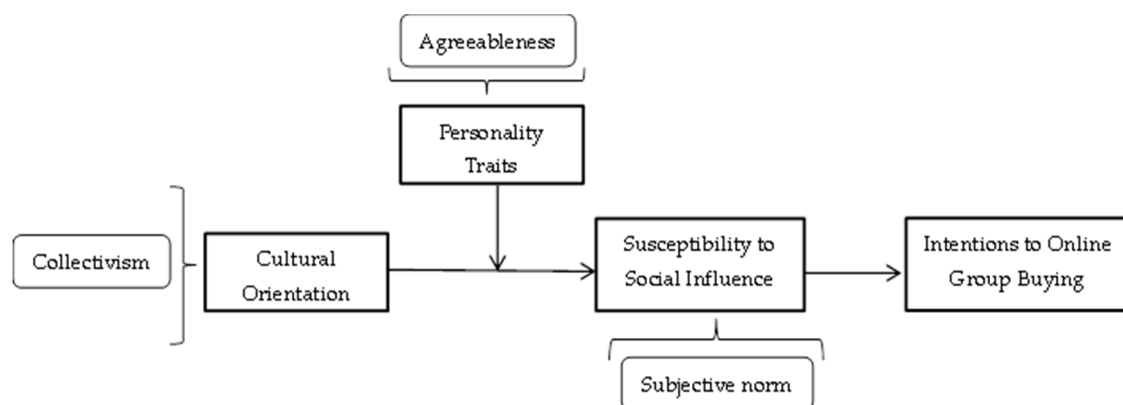


Figure 1. Research model.

## 2.2. Individuals' Cultural Orientations

Consumer acceptance of OGB heavily depends on individuals' cultural orientations insofar as culture forms the way individuals behave, interact, and build relationships with others [6,11,21,29]. In previous studies, culture has also been conceptualized as shared symbols, norms, and values within societies, organizations, and social groups [30,31]. More specifically, Hofstede [23] classifies cultural values into five comprehensive dimensions: power distance (high vs. low), uncertainty avoidance (high vs. low), individualism (vs. collectivism), masculinity (vs. femininity), and long-term orientation (vs. short-term orientation). In the typology proposed by Hofstede, collectivistic values are expected to affect consumer intentions toward OGB and levels of social influence susceptibility, because OGB assumes that individuals must agree to participate in collective actions such as group negotiation, resulting in the modification of personal buying behaviors in response to the actions of others [6,32,33]. Furthermore, it is noted that unity is a key element in the formation of OGB, as unity is the basic constitution in collectivism. From this perspective, consumers with collectivistic values are more likely to comply with social norms and to accept the actions of other group members [34].

Online group buying is usually associated with processes influenced by social groups [6,35]. Of particular interest in this research, collectivism, which is a group-oriented cultural value, is related to a person's perceptions of social pressures to conform to the norms of a group [36]. According to Kuan et al. [14], normative social influence shows a higher degree of group buying behavioral intentions. As a consequence, consumers for whom collectivism is a cultural orientation are receptive

to OGB, because their referent group beliefs influence their opinions and judgment in the consumer context of OGB. Therefore, we expect that:

**Hypothesis 1 (H1).** *Personal cultural orientations of collectivism will positively influence consumer intentions toward OGB.*

### 2.3. Moderating Role of Personality Traits

Individual behaviors are typically determined by personality traits because a person's values and preferences are reflected in his or her personality traits [37]. Indeed, personality traits play a central role in explaining the purchase decisions of consumers [38,39], insofar as personalities influence the formation of individuals' purchase behaviors and the departure of their purchase behaviors from the purchase behaviors of other consumers. Group buying refers to the online shopping model in which group members mutually benefit one another by sharing information and agreeing on a relatively large order quantity to achieve more favorable prices for all [6,35]. Under such a shopping strategy, personality traits are especially important because they play a facilitative and reinforcing role in group buying decisions [18]. Among the most salient of personality traits described in the Big Five framework [38], individuals with high agreeableness are defined as being cooperative, helpful, altruistic, and trusted. Additionally, these characteristics are expected to facilitate cooperative behavior due to high levels of attention paid to maintaining harmony and avoiding conflict [40].

Moreover, personality traits are formed based on several elements, including family, social and geographical environments, and ethnicity and culture. In terms of cultural aspects, collectivists are likely to reciprocate through cooperative behaviors insofar as collectivists subscribe to the importance of group harmony and stability. As such, individuals from collectivistic cultures tend to be more accommodating and more motivated to promote group goals, conforming amiably to group needs and defining self-interests in relation to the group. In this way, the trait of being highly agreeable often appeals to collectivists. Given that OGB is a cooperative behavior that requires the efforts and input of an entire group in compliance with rules established communally, collectivists with high agreeableness may prefer to work in groups, paying consistent attention to the effects of their actions on others.

Thus, this study argues that personality traits (agreeableness) moderate the effects of cultural orientations (i.e., collectivism) on consumer intentions toward OGB. This research expects that consumers with high agreeableness tend to be more cooperative with regard to collective activities, thus showing the increased influence of their cultural values on their OGB intentions. In contrast, we expect that consumers with the personality trait of low agreeableness tend to be less cooperative, thereby lowering the importance of collectivistic values on OGB intentions. Therefore, we suggest that:

**Hypothesis 2 (H2).** *The personality trait of agreeableness will moderate the influence of individuals' cultural orientations on OGB intentions.*

### 2.4. Mediation Process of Social Influence Susceptibility

Social influence is generally described as the ways in which every individual is influenced by his or her social environment, particularly by groups such as family, friends, or teams to which the individual belongs [41]. Kassarian [42] and Kelman [43] have also referred to social influence as an individual's tendency to conform to the opinions of others, based on information obtained as evidence in judgment. For these authors and others, social influence may cause individuals to change attitudes, beliefs, and behaviors due to the influence of others [44]. Social influence is the effect that others have on the behavior of an individual, and there are two common forms of consumer susceptibility to social influences—namely, informational susceptibility and normative susceptibility [45–47]. Informational susceptibility refers to the basing of purchase decisions on the

expert opinions of others, whereas normative susceptibility involves purchase decisions based on the expectations of a group or other individuals [44,47]. Regarding social expectations of normative susceptibility (on which this research focuses), the observation of information-sharing behaviors among personal friends or online connections regarding deals on sites for group buying can induce normative social influence [48,49]. As such, individuals produce subjective norms related to perceptions that their salient referents expect them to perform or not to perform a certain behavior [50]. Moreover, the rise of social commerce provides an environment that enhances consumers' perceptions of group buying to an extent that reflects an individual's tendency to follow the actions of others [14,51]. In this context, participating in group buying offers social rewards, such as acceptance and ready identification with reference groups [52]. Furthermore, in Hofstede's cultural typologies, collectivism is related to normative social influence [53,54]. According to Ball [55], in collectivistic cultures, when norms are clear, a member's behavior is governed by in-group norms. This is due to the fact that collectivists are more inclined to be concerned about the opinions of others when making decisions. Such acceptance of social norms has a positive link with perceptions of group buying mechanisms [22]. In other words, in cases where consumers feel that personal bonds are tight, consumers' levels of susceptibility to social norms play an important role in driving OGB intentions.

Thus, this research suggests that consumers' susceptibility to social influence mediates the relationship between individuals' cultural orientations and intentions toward OGB. This is because consumers that are susceptible to normative social influence are involved in consumer processes to meet social expectations and because group-buying activities are collectivistic, thus the social pressures of a group or other individuals are highlighted for consumers [4,14]. Accordingly, we expect that the cultural orientations of individuals influence their susceptibility to normative social influence, which in turn influences their intentions toward OGB. Thus, we propose that:

**Hypothesis 3 (H3).** *Susceptibility to normative social influence will mediate the relationship between personal cultural orientations and consumer intentions toward OGB.*

**Table 1.** A summary of recent studies of online group buying.

Author(s)	Factors Related to Online Group Buying (OGB) and Consumers' Intentions
Chiu et al. (2018) [A1]	Data collected from OGB websites in Taiwan, examined the relationship between affective commitment and consumers' intentions with the moderator of referral rewards
Ando (2018) [A2]	From the perspective of OGB site operations, forecasted market demand based on the influences of merchant selections and pricing strategies
Tsai and Zhang (2016) [11]	Performed cross-cultural comparison on consumers' OGB intention by examining the variables such as opinion leadership, perceived trust, perceived popularity, and consumer need for uniqueness
Shiau and Chau (2015) [12]	Identified altruism is relevant to the OGB, and founded trust and satisfaction have significantly positive effects on OGB intention
Hsu et al. (2015) [17]	Studied consumer satisfaction and trust as the predictors of repeat purchase intention in OGB with moderating role of habit
Yen and Chang (2015) [9]	From a collectivism perception, conformity, attitude, and collective efficacy affected consumers' intentions in a Taiwan OGB website
Lim (2014) [33]	Tested relationship between social influences (sense of virtual community and perceived critical mass) and OGB intention (perceived risk)
Wang and Chou (2014) [4]	Integrated the technology acceptance model (TAM) in OGB re-purchase intention with consumer characters, social influence, and system factors
Kuan et al. (2014) [14]	Provided the different effects of the two types of OGB information ("buy" vs. "like" information) depend on the different social influences
Lim (2014) [5]	With the information system perspective, studied the relationship between online flow elements and online shopping experiences related to OGB intention
Wang et al. (2013) [16]	Based on both retailers' and consumers' motivations for OGB, consumer collective is initiated by the need to discover desirable brands at favorable prices

### 3. Overview of Studies

This research comprises two studies. Study 1 shows that personality traits moderate the impact of individuals' cultural orientations on OGB intentions, and, in particular, that the influence of cultural values on consumer intentions for OGB depends on levels of agreeableness (low vs. high) described



within the Big Five personality dimensions. Study 2 is an experiment that provides support for the mediation process of social influence susceptibility. Specifically, Study 2 analyzes how consumers' levels of susceptibility to normative social influence mediate the link between individuals' collectivistic values and intentions toward OGB. The survey questionnaire for the current research comprised four constructs, cultural orientation (collectivism), personality traits (agreeableness), susceptibility to social influence (subjective norm), and OGB intention, as well as demographic information for each participant. The questionnaires used in this study-based the measurement items on an extensive review of relevant literature with modifications to fit the constructs in this market context (Appendix A). All of the items were measured using a 7-point Likert scale (range from 1 = strongly disagree, to 7 = strongly agree). Table 2 shows the details of respondent characteristics.

**Table 2.** Descriptive statistics of survey respondents.

Measure	Items	Frequency	Percentage (%)
Gender	Male	253	49.03
	Female	263	50.97
Age (years)	<18	11	2.13
	19–22	148	28.68
	23–30	206	39.92
	31–45	118	22.87
	>46	33	6.40
	High school (below)	140	27.13
Education	College	327	63.37
	Master (above)	49	9.50
	<six months	27	5.23
Experience using OGB	Six months to one year	65	12.60
	One to three years	117	22.67
	Four to six years	176	34.11
	More than seven years	131	25.39
	\$0	26	5.00
Amount spent (per month)	Less than \$100	242	46.92
	Less than \$200	152	29.38
	Less than \$300	96	18.7

Note: n = 516.

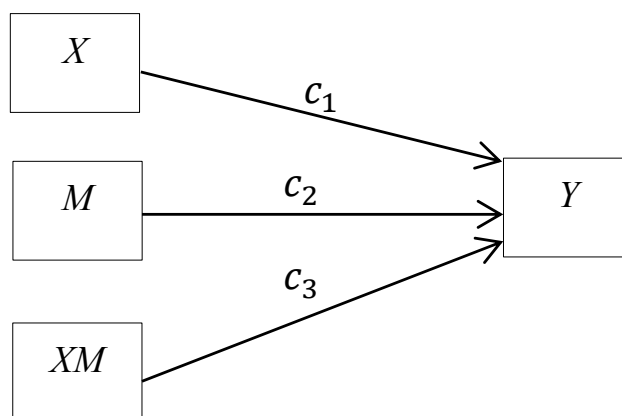
### 3.1. Study 1: Moderating Role of Personality Traits

#### 3.1.1. Method

This study tests the moderating role of personality traits on an individual's intentions for OGB. Initially, 550 online respondents were paid £0.25 for participation in the study, and a final total of 516 who completed surveys were used for analysis. The study questionnaire consisted of scales concerning participants' cultural orientations, personality traits, and intentions toward OGB. The first part of the survey measured personality traits [56], using 7-point Likert scales with values ranging from 1 (strongly disagree) to 7 (strongly agree). Personality traits in Study 1 are represented by differences in evaluation on the scale: higher scores correspond to high levels of agreeableness and lower scores correspond to lower levels of agreeableness. In the second part, the survey measured personal cultural values using a Personal Cultural Orientations framework [57], which re-conceptualizes Hofstede's five cultural factors. We used 7-point Likert scales, with higher scores indicating a stronger value for the dimension. Finally, participants evaluated their intentions toward OGB with self-reported ratings. Specifically, participants were asked to rate the following statements: "I intend to engage in online group buying", "I intend to purchase items by online group buying in the future", and "I intend to search for more OGB information, products, and services". We measured intentions using a mean value, with higher scores indicating stronger intentions toward OGB.

### 3.1.2. Results and Discussion

This section presents results regarding the antecedents of OGB intentions and the moderating role of personality traits. Analyses of the interaction effects of personality traits and cultural values on OGB intentions used the moderation bootstrap procedure (PROCESS Model 1) suggested by Hayes [58]. The model assigned individuals' cultural orientations as independent variables, personality traits as moderators, and intentions toward OGB as the dependent variable. First, we analyzed the impact of individuals' cultural orientations on intentions toward OGB. As expected, collectivistic values were shown to positively influence intentions toward OGB, as the path coefficient in the moderation model (Figure 2) is significant ( $c_1 = 0.267$ ,  $p < 0.10$ ), thus providing support for Hypothesis 1. Because group buying is collectivistic [21,59], a perspective of collectivism is a positive predictor of consumer intentions toward OGB. These results are consistent with findings from existing literature: consumers from collectivist cultures are more likely to show cooperative behaviors in the process of group buying, and they typically prioritize in-group goals that emphasize the importance of group harmony and agreement [21].



**Figure 2.** Statistical model for simple moderation in Study 1.

The second part of the analysis examines the moderating role of personality traits on the OGB intentions of consumers. The results of our study support this proposition, showing that the impact of individuals' cultural orientations on OGB intentions depends on personality traits. The value of coefficient  $c_3$  is 0.496, and is statistically different from zero ( $p < 0.10$ ). Table 1 shows that the confidence interval (CI) for the interaction between cultural values and individuals high in agreeableness excluded zero ( $p < 0.10$ ; CI: 0.004, 0.988), and that the effects of collectivistic values on intentions toward OGB were subject to individual levels of agreeableness. Our results support Hypothesis 2 with an estimate of conditional effects indicating that collectivistic values significantly impact the OGB intentions of consumers who are high in agreeableness ( $p = 0.03 < 0.05$ ). However, for consumers with low agreeableness, collectivistic values do not impact OGB intentions ( $p = 0.99$ ). The relative increase in levels of agreeableness toward OGB accounts for the effects of collectivism on intentions toward OGB because when individuals are high in agreeableness, the impact of collectivistic values on OGB intentions is significant. Taken together, the results show evidence of the moderating role of personality traits, thus supporting Hypothesis 2. See Table 3.

**Table 3.** Moderating effect of personality traits on intentions to online group buying.

Source of Variance	Coeff.	<i>p</i>	LLCI	ULCI
Collectivistic values ( <i>c</i> <sub>1</sub> )	0.267 (0.152)	0.079 *	0.017	0.518
Personality traits ( <i>c</i> <sub>2</sub> )	0.312 (0.133)	0.020 **	0.092	0.531
Collectivistic values x Personality ( <i>c</i> <sub>3</sub> )	0.496 (0.298)	0.094 *	0.004	0.938

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.001$ ; Standard errors are in parentheses.

### 3.2. Study 2: Mediation Process of Social Influence Susceptibility

#### 3.2.1. Method

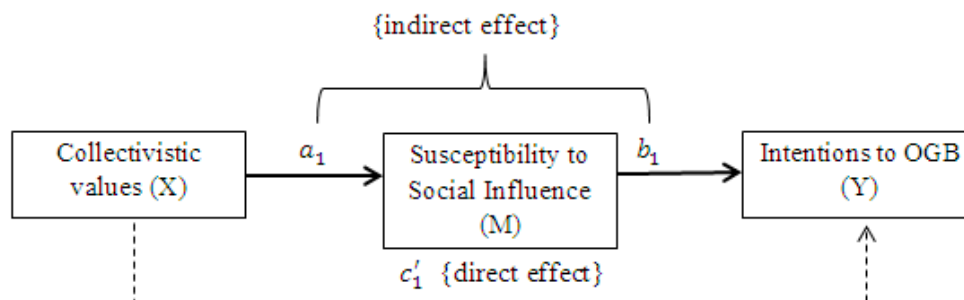
Study 2 aimed to discern support for the mediation effects of social influence susceptibility. As in the first study, a questionnaire was used consisting of scales concerning individuals' cultural orientations, social influence susceptibility, and intentions toward OGB. To test mediation, we used questionnaire items of subjective norms adopted from the 3-item scales of Kim et al. [60]. Specifically, the same participants ( $N = 516$ ) from Study 1 continued to use a 7-point Likert scale to rate the following statements: "People important to me think I should use OGB", "People who influence my behavior think I should use OGB", and "People whose opinions I value prefer that I use OGB". We measured participants' levels of susceptibility to social influence using a mean value, with higher scores indicating stronger levels of sensitivity to social norms.

#### 3.2.2. Results and Discussion

Hypothesis 3 predicted that susceptibility to social influence would mediate the effects of individuals' cultural orientations on OGB intentions. To examine whether relative sensitivity to normative social influence accounts for the effects of cultural values on OGB intentions, we tested whether differences in susceptibility mediated the effects. Following the bootstrapping procedures (PROCESS Model 4) of Hayes [58], which are used to assess the effects of independent variables on a dependent variable both directly and indirectly through the mediator, we examined whether individuals' cultural orientations ( $X$ ) influence OGB intentions ( $Y$ ) directly, as well as indirectly through susceptibility to social influences ( $M$ ), which is causally located between the two [58].

Results support the social influence susceptibility process, thus supporting Hypothesis 3. In this study, the total effect is statistically different from zero ( $c_1 = 0.273$ ,  $p > 0.10$ ). More specifically, this can be interpreted as meaning that participants with high collectivism have 0.273 greater intentions toward OGB on average than participants with low collectivistic values. In fact, the total effect partitions completely into the direct effect of cultural values of collectivism ( $c'_1 = 0.069$ ) and the indirect effect through susceptibility to social influences ( $a_1 b_1 = 0.204$ ). The direct effect is not statistically different from zero ( $p > 0.13$ ), but the indirect effect is statistically different from zero, as seen in a bootstrap confidence interval that is entirely above zero (0.081 to 0.344). Therefore, participants with high collectivistic values reported intentions toward OGB at 0.204 units (the point estimate of the indirect effect) greater on average than the reported OGB intentions of participants with low collectivistic values. This finding was a result of the effect of social influence susceptibility, which in turn influenced OGB intentions. Indeed, participants with high collectivistic values felt  $a_1 = 0.423$  more susceptible to normative social influences than participants with low collectivistic values. In addition, participants who were highly susceptible to normative social influences were shown to have greater intentions to OGB at a value of  $b_1 = 0.482$ . Hence, the indirect effect is  $0.423(0.482) = 0.204$ . See Figure 3 and Table 4.





**Figure 3.** Conceptual and statistical models of simple mediation in Study 2.

**Table 4.** Mediating effect of susceptibility to social influence toward the OGB intentions.

	Coeff.	<i>p</i>	LLCI	ULCI
$a_1$	0.423 (0.161)	0.008 ***		
$b_1$	0.482 (0.035)	0.000 ***		
$a_1b_1$	0.204 (0.080)		0.081	0.344
$c_1$	0.273 (0.150)	0.068 *		
$c'_1$	0.069 (0.129)	0.592		

Note: \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.001$ ; Standard errors are in parentheses.

The results of Study 2 provide evidence for the hypothesized process by which susceptibility to social influences mediates OGB intentions. We found that consumers with high (vs. low) collectivistic values are more susceptible to normative social influences, which, in turn, enhances consumer intentions to OGB. The results contribute to our better comprehension of consumer characteristics as antecedents of OGB intentions, suggesting a novel mediation process through social influence susceptibility. While extensive prior research suggested that consumer demographics, psychological, and behavioral characteristics have direct effects on OGB intentions [4,7,35,61], the findings of this study suggest a possible underlying process that indirectly supports these effects through social influence susceptibility.

#### 4. Conclusions

This research investigates the effects of individuals' cultural orientations on intentions toward OGB and the moderating effects on the links between personality traits. The research further explores the mediation role of susceptibility to social influence in the context of this relationship. The results of this study indicate that consumers with the personality trait of high agreeableness exhibit greater intentions toward OGB compared to consumers with the personality trait of low agreeableness, while these types of consumers otherwise display little differences in cultural values of collectivism. Our findings indicate that individuals' levels of cooperativeness (high vs. low in agreeableness) have different effects on collectivistic values (high vs. low) via intentions toward OGB. In addition, under normative social influence, collectivists' intentions toward OGB are significant, whereas no direct effects of the impact of cultural values are observed related to OGB intentions. This study extends the findings of prior work on individuals' cultural orientations and intentions toward OGB [11], highlighting the moderating role of personality traits in consumers. We demonstrate that the impact of collectivistic cultural values on intentions toward OGB is significantly greater for consumers with the personality trait of high agreeableness. Hence, this study expands upon earlier findings on cultural effects in group buying behaviors associated with consumer psychological characteristics [62,63], including distributive justice and altruistic motivation as moderators [12,61]. Specifically, although consumers with collectivistic

values demonstrate a general tendency for group buying intentions [34], the present study shows that collectivistic values alone do not directly influence the intentions of consumers with the personality trait of low agreeableness. In this context, the results reinforce the importance of cooperativeness at the individual level as a moderator in generating genuine intentions toward OGB. Moreover, our study highlights the mediation role used to elucidate the effects of individuals' cultural orientations on OGB intentions both directly and indirectly through consumer susceptibility to social influences. The mediation effects of susceptibility to normative social influence on OGB intentions are examined, and the findings contribute to our understanding of the impact of social influence susceptibility on collective buying behaviors [14,35]. Our results suggest that highly collectivistic consumers are more susceptible to normative social influence, thereby resulting in greater intentions toward OGB. Specifically, consumers with values that are highly collectivistic are more susceptible to normative social influences than consumers with low collectivistic values. These consumers who are highly susceptible to normative social influences show greater intentions toward OGB.

In summary, the findings of this study confirm that traits of cooperativeness and susceptibility to normative social influences are important in establishing the evidential relationship between individuals' cultural orientations and OGB intentions. In other words, the more agreeable a person's nature, the stronger the person's intentions toward OGB, as long as the person identifies with a collectivist cultural orientation. In addition, consumers with high collectivistic values are more inclined toward OGB, because these consumers are more sensitive to normative social influences. This indicates that as collectivist consumers tend to be highly collaborative and more sensitive to the responses of other group members, they tend to be more willing to participate in OGB activities.

Nonetheless, a question that remains unanswered by this research is the importance of the consumer price sensitivity in OGB activities. Price consciousness, defined as the extent to which consumers focus exclusively on paying lower (vs. higher) prices, was not an element that emerged from our current OGB study. The importance of how a price sensitive consumer responds in the online collective buying environment may be an interesting question for future research to explore. Previous studies have suggested that online consumers place the greatest emphasis on price and prefer online shopping due to their belief in lower prices offered by online shops [A3]. Tellis (1988) [A4] indicates that consumers who place significant importance on price when making purchasing decisions can be sensitive to even small fluctuations in prices, which may alter their purchase decisions. More to the point, consumers are more likely to be sensitive to online prices, because online markets can reduce search costs and facilitate the purchase of products at lower prices [A5]. The explosive growth of OGB has been witnessed in Eastern countries, because consumers place great emphasis on using coupons and sharing information on goods and services, with the latter representing a manifestation of collectivism [21]. Future research further investigating the relationship between price sensitivity and OGB intentions would be helpful to ascertain whether consumer's cultural orientation and normative social influence play an important role in OGB regardless of the high or low prices.

While the present research extends the findings of previous literature on the impact of individuals' cultural orientations on consumer intentions toward OGB, it also suggests practical implications for practitioners by identifying consumer characteristics that can influence OGB intentions. In particular, when developing an online business model to generate a new customer pool, it is important for managers and OGB site operators to understand that knowledge of consumer cultural orientations is a prerequisite for determining consumer intentions toward OGB.

For the question of how to effectively advertise and display products and services in OGB business models, this study suggests that managers should emphasize the cultural orientations of individuals that influence consumer intentions toward OGB. Specifically, operations managers at OGB sites should promote consumers' collectivistic values when launching new Internet deals, a tactic which, in turn, stands to increase consumer purchase intentions toward OGB. The findings of this study also demonstrate that personality traits are important moderators in the creation of OGB intentions, suggesting that managers should explore personality traits when attracting more customers to their

sites. For instance, facilitating a customer-initiated bidding coalition in the OGB Internet market may potentially increase a sense of cooperation in both existing and new consumers insofar as they are willing to share useful information and help other shoppers.

An additional strategy for firms and OGB site operators would be to reinforce social influences on consumers related to the application of external pressure through social networks. For example, from the perspective of normative social influence herein, consumers who are highly susceptible to influence from important people in their life (e.g., family, friends, and colleagues at work) showed greater intentions toward OGB. This means that this type of consumer is affected by the opinions and suggestions of others in terms of purchase decisions [64]. To stimulate consumer intentions toward OGB, it is important to emphasize feelings of conformity and similarity with peers in the social networks of potential consumers. Therefore, based on the results herein, OGB sites should provide consumers with information that exerts normative social influence, thereby impelling consumers to participate in deals based on salient referents who have purchased the same deals via OGB. According to Kuan et al. [14], normative social influence on group buying can be effectively employed in social commerce environments, such as Facebook or Instagram, by invoking the “like” or “heart” mechanisms to influence purchase behavior. Accordingly, a tactic for group buying sites may be to visibly update the number of purchasers in popular deals and peer reviews of social media influencers and bloggers to enhance the positive effects of normative social influence.

This study has some features that limit generalization of our findings. First, this study examines OGB intentions in general, without considering specific kinds of products or services. Further research should continue the investigation in consideration of specific products or services in order to examine various consumer behaviors related to OGB processes. Secondly, beyond the personality traits and social influences utilized herein, there may exist other moderating and mediating factors that affect the intentions of online shoppers toward group buying. Finally, our study focuses on the relative effects of one personality type (agreeableness) and one type of social influence (normative), without employing all the dimensions of the Big Five personality framework or informational social influence—factors which are commonly used to investigate buying behaviors in consumers. Thus, future studies should include personality variables such as extroversion, conscientiousness, and openness to experience, as well as other types of social influences, to determine which of these factors tend to defuse or escalate the effects of personality traits and social influence on OGB intentions. Indeed, investigation along these lines could be a fruitful framework for future research, with the potential to broaden the relative effectiveness of moderators and mediators on consumer intentions toward OGB, as researched herein.

**Author Contributions:** B.H. wrote the paper and developed and conducted the surveys used in this research. M.K. contributed to the revision of the paper.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A

### Further reading Reference

- [A1 ] Chiu, Y.L.; Chen, L.J.; Du, J.; Hsu, Y.T. Studying the relationship between the perceived value of online group-buying websites and customer loyalty: The moderating role of referral rewards. *J. Bus. Ind. Mark.* **2018**, *33*, 665–679.
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Table A1. Measures and scales.

Variables	Items	Mean (SD)	Source	Cronbach's $\alpha$
Collectivism	Q1. To understand who I am, you must see me with members of my group.	4.23 (1.18)	Sharma (2010) [57]	0.79
	Q2. To me, pleasure is spending time with others.	4.14 (1.23)		
	Q3. I would help, within my means, if a relative were in financial difficulty.	4.11 (1.31)		
	Q4. I make an effort to avoid disagreements with my group members.	3.87 (1.38)		
	Q5. Before making a decision, I always consult with others.	3.95 (1.37)		
	Q6. How I behave depends on who I am with, where I am, or both.	4.14 (1.31)		
Agreeableness	<i>I see myself as</i>		Gosling et al. (2003) [56]	0.76
	Q1. Trust	4.51 (1.23)		
	Q2. Compliance	4.61 (1.20)		
	Q3. Sympathetic	4.84 (1.23)		
Subjective norm	Q4. Warm	4.65 (1.24)	Kim et al. (2009) [60]	0.80
	Q1. People who influence my behavior think that I should use OGB.	4.28 (1.51)		
	Q2. People who are important to me think that I should use OGB.	4.33 (1.39)		
	Q3. People whose opinions I value prefer that I use OGB.	4.24 (1.43)		
OGB Intentions	Q1. I intend to engage in online group buying.	3.84 (1.63)	Lim (2014) [5]	0.81
	Q2. I intend to purchase items by online group buying in the future.	4.11 (1.64)		
	Q3. I intend to search for more OGB information, products and services.	4.08 (1.52)		

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