
The Influence of Social Presence on the Spending Habits of Introverts and Extroverts

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Economics and the Assumption of Rationality

The field of economics has traditionally held the view that people make decisions from a completely rational standpoint. Under such a framework, individuals weigh the pros and cons of each choice, looking to maximize their benefits while minimizing their costs. Decisions are based on sound logic, and seemingly irrational choices are excluded. However, there are internal and external influences that may lead individuals to make seemingly irrational choices.

How are we really?

Homo Economicus?

Homo Emotionalis?

Rational decisions
Maximizing utility
In pursuit of
wealth and own
interests

Biases
Emotional
Social
Error prone



Homo "Mindfulnus"



Purpose of the Study

This study observes how the social pressure generated within a retail setting may influence impulsive purchasing decisions made by consumers. It takes into account certain personality traits of consumers, specifically introversion and extroversion, that may exacerbate the effects of social pressure on consumer decision making.



Shopping and Social Pressure

Mangleburg et al. (2004): “Social influence has long been recognized as an important force shaping an individual’s consumer behavior. Reference groups may exert influence in a number of ways: by providing information in ambiguous situations (i.e., informational influence), by setting normative standards of conduct, and/or by enhancing an individual’s self-image (i.e., normative influence). These influences may occur before purchase (e.g., through word-of-mouth communication and patterns of information-seeking), during purchase (e.g., when others are present in purchase settings), and after purchase (e.g., when others are present in consumption contexts).”



Shopping Companions as a Source of Social Influence

- Chebat, Haj-Salem, and Oliveira (2014) found that visiting a certain mall with companions may actually increase a consumer's attachment to that mall.
- Multiple studies have found that group shopping generally appears to increase the number of items purchased (Chebat et al., 2014; Mangleburg et al., 2004; Luo, 2005).
- Peers largely tend to serve as sources of information to consumers, helping the consumer to feel a reduced risk of making a bad purchase decision while also possibly making them more self-aware. Depending on the situation and the type of shopping companions involved, this may either increase or decrease impulsive purchases (Luo, 2005).
- Younger shoppers may also use their companions as a metaphorical measuring stick for themselves. This social comparison can influence spending decisions (Mangleburg et al., 2004; Tootelian & Gaedeke, 1992).

Extraversion and Social Influence

- Introverts and extroverts may respond differently to social pressures in a retail setting due to the different ways they perceive external influences from the world around them.
- *Extroverted* types are regarded as being oriented primarily to the outer world of objects, people, and action, having a tendency to get caught up with whatever is happening around them. *Introverted* types have a more inward orientation and tend to detach themselves from the world around them. (Carlyn, 1977; p. 461)

Introverts

- Focus on their inner world of concepts and ideas
- Tend to work alone and dislike distractions
- Can more easily focus on their inner worlds and ignore external noise (i.e., the influence of their peers)
- Do not like to be pressured into reacting before their thinking processing is complete

(Barkhi & Wallace, 2007; p. 318-319)

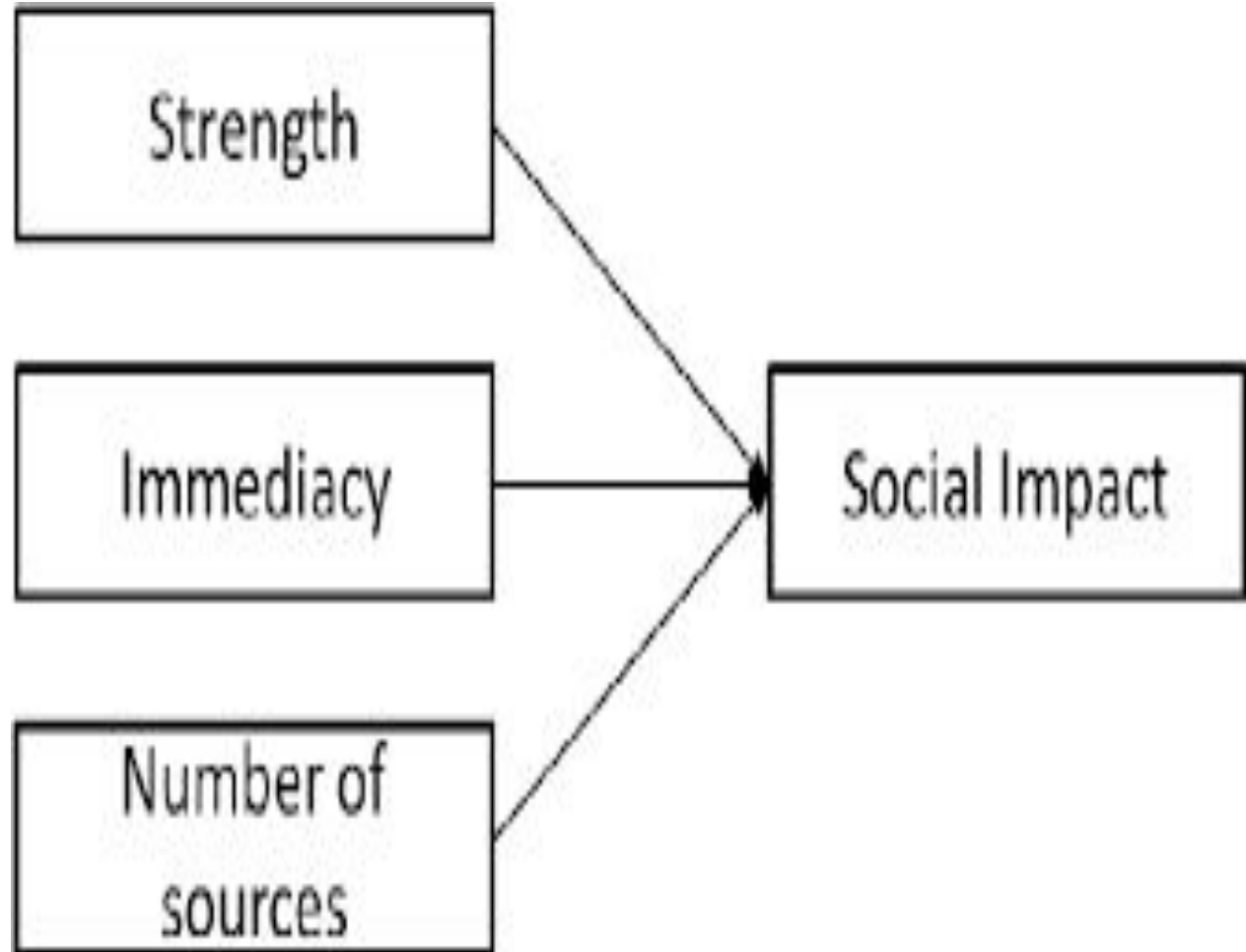
Extroverts

- Pay more attention to objects and people in their environment
- Talkative, impulsive, and gregarious
- More likely to be influenced by the expressive display of opinions from their peers
- Tend to consider more suggestions from other reference groups such as experts and peers because they have a desire to “talk things out”

(Barkhi & Wallace, 2007; p. 318-319)

Social Impact Theory

Dr. Bibb Latané's Social Impact Theory (1981) serves as the theoretical foundation for the design of this study.



Social Impact Theory

Latane's Social Impact Theory implies that "people are impacted by the real, implied, or imagined presence or action of a social presence (i.e., another person or group of people)" and that "impact results from three 'social forces': number (i.e., social size—how many people are present), immediacy (i.e., proximity), and social source strength (i.e., importance; Latane' 1981)."

- (Argo, Dahl, & Manchanda; 2005; p.207)

Methods

- This paper is concerned with examining the ways in which social pressure may influence introverts and extroverts to diverge from established shopping plans.
- Data was gathered from individuals using three similar online surveys. These surveys consisted of three parts: an informed consent form with brief demographic questions, an extraversion scale test, and one of three retail scenarios designed by the researcher.
- The retail scenarios were used to observe whether participants would vary from a preset shopping plan. They ranged in level of social pressure present: no pressure, low pressure, and high pressure.

The Extraversion Test

- The 20-item IPIP Big Five Factor Test for Extraversion was used to measure extraversion levels of participants. The items are listed below. Participants responded on a 5-point Likert scale.

Positively keyed:

Am the life of the party.
Feel comfortable around people.
Start conversations.
Talk to a lot of different people at parties.
Don't mind being the center of attention.
Make friends easily.
Take charge.
Know how to captivate people.
Feel at ease with people.
Am skilled in handling social situations.

Negatively keyed:

Don't talk a lot.
Keep in the background.
Have little to say.
Don't like to draw attention to myself.
Am quiet around strangers.
Find it difficult to approach others.
Often feel uncomfortable around others.
Bottle up my feelings.
Am a very private person.
Wait for others to lead the way.

Retail Scenarios

- Each participant was randomly assigned one of the three scenarios.
- Participants had the option to respond with “make no purchase”, “purchase only the shirt”, or “purchase both the shirt and the suit”.

Scenario 1 (No pressure):

You need to purchase a collared shirt for a job interview. You decide to visit a department store on a Thursday afternoon to see what you can find. The large store is empty except for two or three other shoppers. As you browse the aisles, you come across many business attire pieces, including a wide variety of suit sets. You finally find a suitable shirt and choose to purchase it. On your way to the cash register, you pass buy a tailored suit set you recall seeing earlier. You think that the suit would go well with the shirt you intend to purchase and would really complete the look for the job interview. You hesitate for a moment. What do you choose to do?

Retail Scenarios

- Each participant was randomly assigned one of the three scenarios.
- Participants had the option to respond with “make no purchase”, “purchase only the shirt”, or “purchase both the shirt and the suit”.

Scenario 2 (Low pressure):

You need to purchase a collared shirt for a job interview. You decide to visit a department store on a Thursday afternoon to see what you can find. The large store is rather crowded. As you browse the aisles, you notice that a large number of shoppers are gathered in the professional attire section. After making your way through the group of customers, you finally find a suitable shirt and choose to purchase it. On your way to the cash register, you pass buy a nearly empty rack of tailored suit sets that you recall seeing earlier. You think that the suit would go well with the shirt you intend to purchase and would really complete the look for the job interview. You hesitate for a moment. What do you choose to do?

Retail Scenarios

- Each participant was randomly assigned one of the three scenarios.
- Participants had the option to respond with “make no purchase”, “purchase only the shirt”, or “purchase both the shirt and the suit”.

Scenario 3 (High pressure):

You need to purchase a collared shirt for a job interview. You decide to visit a department store on a Thursday afternoon with some of your closest friends. After a few minutes of browsing the store with them, you finally find a suitable shirt and choose to purchase it. As you all head back to the cash register, one of your friends pulls a tailored suit set from a nearby rack and holds it up in front of you. All your companions agree that the suit would go well with the shirt you plan to buy and would really complete the look for the job interview. You hesitate for a moment. What do you choose to do?

Proposed Hypothesis and Econometric Specification

- Previous literature suggests that extroverts are more open to receiving advice and influence from peers than introverts are.
- Previous literature also suggests that introverted persons are more likely to internalize emotions, but may still be aware of how they appear to the outside world.
- The tendency to make an impulsive purchase is expected to increase as the social pressure to do so increases.
- Lastly, previous literature suggests that younger individuals seem to be more likely to make impulsive purchases than older individuals.
- Given the observations, the hypotheses of the study as well as the econometric specification of the model is given in the following slides.

Proposed Hypothesis

Hypothesis 1: In the scenario where there is no apparent social pressure, there will be minimal divergence from the preset shopping plan for both introverts and extroverts.

Hypothesis 2: In the scenario where there is an underlying social pressure to make an additional purchase from unknown individuals, introverts will display a greater divergence from the preset shopping plan than extroverts.

Hypothesis 3: In the scenario where there is a social pressure to make an additional purchase from close friends, extroverts will display a greater divergence from the preset shopping plan than introverts.

Econometric Specification

$$\text{Items} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{TreatmentL} + \beta_3 \text{TreatmentH} + \beta_4 \text{Extraversion} + E$$

Where “Items” denotes the number of items that each individual chose to purchase after reading through their given scenario, “Age” denotes the age of the survey taker, “Treatment L” denotes the low pressure experienced in Scenario 2, and “Treatment H” denotes the high pressure experienced in Scenario 3.

The treatment not present in the model is “Treatment N” which denotes no social pressure as experienced in Scenario 1. Treatment N will serve as the base for the dummy variable and has thus been excluded from the hypothesized model to prevent collinearity.

Summary Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Items	64	1.6718	.4732	1	2
Age	64	20.3281	1.4806	18	23
Mean Extraversion	64	3.3414	.6281	1.55	4.65

* Note that all participants purchased at least one item.

Summary Statistics

Level of Pressure	Frequency	Percentage	Cumulative
High	20	31.25	31.25
Low	22	34.38	65.63
None	22	34.38	100.00
Total	64	100.00	

Results: Hypothesis 1

The hypothesis for this scenario was that there would be minimal divergence from the preset shopping plan, which was to purchase only one item, in both introverts and extroverts. The results in the table show that this hypothesis is not supported by the data. The majority (approximately 77% of extroverts and 67% of introverts) of both groups that were exposed to this specific scenario chose to purchase two items.

Table 7: Crosstab of "IntroExtro" and the number of items purchased for no-pressure scenario.

Introvert/Extrovert	Number of Items Purchased		Total
	1	2	
Extrovert	3	10	13
Introvert	3	6	9
Total	6	16	22

Results: Hypothesis 2

The hypothesis for this scenario was that introverts would be more greatly influenced by the indirect social pressure implied in this scenario. Thus, the data would show a greater divergence from the preset shopping plan in introverts than in extroverts. However, the data actually shows that the level of divergence is relatively equal for both groups. According to the above table, approximately 83% of introverts and 80% of extroverts that were exposed to this scenario chose to purchase both the shirt and the suit rather than just the shirt. The percentage for introverts is only slightly higher, and the tendency seems to be to make the additional purchase in both cases.

Table 8: Crosstab of "IntroExtro" and the number of items purchased for low-pressure scenario.

Introvert/Extrovert	Number of Items Purchased		Total
	1	2	
Extrovert	2	8	10
Introvert	2	10	12
Total	4	18	22

Results: Hypothesis 3

The hypothesis for this scenario was that extroverts would be more greatly influenced by the direct social pressure brought about by the input of close friends. The data shown in the table above supports this hypothesis. Approximately 58% of the extroverts exposed to this scenario decided to take their friends' advice and purchase the suit also (2 items). This is compared to only 25% for introverts who made the same decision. This finding suggests that extroverts are more open to taking suggestions from friends, a tendency that was observed in some of the previous literature (Barkhi & Wallace, 2007).

Table 9: Crosstab of "IntoExtro" and the number of items purchased for high-pressure scenario.

Introvert/Extrovert	Number of Items Purchased		Total
	1	2	
Extrovert	5	7	12
Introvert	6	2	8
Total	11	9	20

Results: Probit Regression

Initially, the regression was run with the variable “Age”, but this was shown to have little bearing on the accuracy of the model and was thus dropped (zero coefficient and insignificant). The coefficients for TreatmentL and mean extraversion are both positive while the coefficient for TreatmentH is negative (unexpected). TreatmentH is shown to be the only statistically significant variable (significant at the 10% level). All in all, the results of this regression imply that the suggested model was not a sufficient means of describing the underlying behavior observed in the survey.

Variable	Coefficient	Standard Error	P-value
Mean Extraversion	.3162	.2819	.262
Treatment L (=1 if participant was exposed to low-pressure scenario; 0 otherwise)	.4261	.4370	.330
Treatment H (=1 if participant was exposed to high-pressure scenario; 0 otherwise)	-.6887	.4053	0.089

What happened in the High-Pressure Scenario?

- The coefficient was negative for the high pressure scenario, suggesting that being exposed to a higher level of pressure actually resulted in the majority of individuals choosing to purchase less. This was an unexpected result.
- One possible explanation is that individuals may be more willing to diverge from a preset shopping plan at their own internal suggestion than from the external suggestion of friends. In the high-pressure scenario, the second item available for purchase (the suit) was both discovered and presented to the individual by one of their friends.
- This tendency to ignore input from others seems more prevalent in introverted participants than extroverted participants.

Why were most of the variables insignificant?

- The fact that all the recipients of the email were college students severely restricted the possible age range of participants. Since all of the participants were essentially around the same age, there was no opportunity to observe how older or younger individuals may have responded to the hypothetical scenarios. This lack of variability in age may have contributed to the zero coefficient for the age variable in the probit regression.
- The survey only had 64 respondents. This lack of data can severely impact the accuracy of the study.

Why were most of the variables insignificant?

- College students may have a different relationship with money than the average person. College students may behave differently from the average adult while shopping since many students are still dependent on family and may not make a consistent income. Behaviors resulting from this circumstance may still be presenting themselves even though participants were told to assume that they had enough money to make the purchase.
- There may be a missing, unspecified variable that may have been beneficial to the model. For example, the model may have been more accurate if a variable for the natural impulsiveness of an individual (regardless of external influence) was included.

Suggestions for Future Research

- Open up the study to persons representing a wider range of ages, backgrounds, and income brackets
- Have more participants in the study
- Include a variable for natural impulsiveness in the specified model
- Have participants answer the retail scenario question before they take the extraversion test
- Introduce variations to the retail scenarios. Ex. different groups/types of items, budget constraints, family members present, etc

A person is standing on a shopping cart, holding several colorful bags (green, orange, blue, yellow). The scene is set in a brightly lit store or mall. A semi-transparent white box is overlaid on the lower left portion of the image, containing the text "Thank You For Your Time" in a bold, dark blue font.

Thank You For Your Time

References

- Argo, J. J., Dahl, D. W., & Manchanda, R. V. (2005). The Influence of a Mere Social Presence in a Retail Context. *Journal of Consumer Research*, 32(2), 207-212.
- Bae, S., & Miller, J. (2009). Consumer Decision-Making Styles for Sport Apparel: Gender Comparisons between College Consumers. *ICHPER-SD Journal of Research*, 4(1), 40-45.
- Barkhi, R., & Wallace, L. (2007). The impact of personality type on purchasing decisions in virtual stores. *Information Technology & Management*, 8(4), 313-330.
- Beckerson, W., Anderson, J., Perpich, J., & Yoder-Himes, D. (2020). An Introvert's Perspective: Analyzing the Impact of Active Learning on Multiple Levels of Class Social Personalities in an Upper-Level Biology Course. *Journal of College Science Teaching*, 49 (3).
- Belsky, G., & Gilovich, T. (2010). Why smart people make big money mistakes-- and how to correct them: lessons from the life-changing science of behavioral economics (Simon & Schuster trade paperback edition.). Simon & Schuster Paperbacks.
- Burns, G. N., Morris, M. B., Periard, D. A., LaHuis, D., Flannery, N. M., Carretta, T. R., & Roebke, M. (2017). Criterion-related validity of a Big Five general factor of personality from the TIPI to the IPIP.
- Carlyn, M. (1977). An Assessment of the Myers-Briggs Type Indicator. *Journal of Personality Assessment*, 41(5), 461.
- Chebat, J.-C., Haj-Salem, N., & Oliveira, S. (2014). Why shopping pals make malls different? *Journal of Retailing and Consumer Services*, 21(2), 77-85.
- Childers, T. L., & Rao, A. R. (1992). The Influence of Familial and Peer-Based Reference Groups on Consumer Decisions. *Journal of Consumer Research*, 19(2), 198-211.
- Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The Mini-IPIP Scales: Tiny-yet-effective measures of the Big Five Factors of Personality. *Psychological Assessment*, 18(2), 192-203.

References

- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, 4(1), 26–42.
- International Personality Item Pool. Big-five factor markers. Retrieved April 02, 2021, from <https://ipip.ori.org/newBigFive5broadKey.htm#Extraversion>
- Kurt, D., Inman, J., & Argo, J. (2011). The Influence of Friends on Consumer Spending: The Role of Agency—Communion Orientation and Self-Monitoring. *Journal of Marketing Research*, 48(4), 741-754.
- Lee, J., & Hwang, J. (2019). Factors affecting the fashion purchase decision-making of single Koreans. *Fashion & Textiles* (2198-0802), 6(1).
- Lindsey-Mullikin, J., & Munger, J. (2011). Companion Shoppers and the Consumer Shopping Experience. *Journal of Relationship Marketing*, 10(1), 7-27.
- Luo, X. (2005). How Does Shopping with Others Influence Impulsive Purchasing? *Journal of Consumer Psychology*, 15(4), 288-294.
- Mangleburg, T. F., Doney, P. M., & Bristol, T. (2004). Shopping with friends and teens' susceptibility to peer influence. *Journal of Retailing*, 80(2), 101-116.
- Talwar, A., Kaur, J., & Duggal, V. (2020). The Impact of Myers-Briggs Personality Types (Introversion And Extroversion) On Purchase Intention Towards International Fashion Brands Of Millennials In India. *Academy of Marketing Studies Journal*, 24(1), 1-15.
- Tootelian, D. H., & Gaedeke, R. M. (1992). THE TEEN MARKET: An Exploratory Analysis of Income, Spending, And Shopping Patterns. *Journal of Consumer Marketing*, 9(4), 35.
- Tupes, E. C., & Christal, R. E. (1992). Recurrent Personality Factors Based on Trait Ratings. *Journal of Personality*, 60(2), 225-251.
- Vijaya Lakshmi, N. (2008). Personality Profiling of Introverts and Extroverts. *ICFAI Journal of Soft Skills*, 2(3), 60-67.