

## Article

# Educational Donors' Expectations and Their Outcomes in the COVID-19 Era: The Moderating Role of Motivation during Sequential Evaluation Phases

Huifeng Pan <sup>1</sup> and Hong-Youl Ha <sup>2,\*</sup> 

<sup>1</sup> Department of Economics, Shanghai University of Political Science and Law, Shanghai 201701, China; panhuofeng@shupl.edu.cn

<sup>2</sup> Department of International Trade, Dongguk University, Seoul 04620, Republic of Korea

\* Correspondence: hyha@dongguk.edu

**Abstract:** Donors' prior expectations of reinforcing satisfaction and favorable attitudes are predicted using Oliver's satisfaction cycle model. This study aims to investigate how prior expectations drive sustainable donation behavior by demonstrating the moderating role of educational donors' motivation to predict further participation behavior. Using three time-lag intervals, our findings show that the relationship between prior expectations (T1) and attitudes toward educational donation (T3) is positive on a longitudinal basis. While this relationship is negatively moderated by the role of donor motivation, the relationship between the expectation of satisfaction and attitudes toward educational donations is not significantly moderated by motivation. In particular, favorable attitudes toward educational donation increase rapidly when prior expectations are high, and motivation is low. This study contributes to the literature by providing evidence for the theoretical mechanisms of the satisfaction cycle model and practical insights for managers during educational donations events.

**Keywords:** prior expectations; expectation of satisfaction; attitudes; motivation; longitudinal study



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## 1. Introduction

Topics related to customer satisfaction have received considerable attention from researchers over the past 40 years. Extant research has mainly focused on products or services, whereas studies focusing on the satisfaction cycle model before and after consuming a product (or service) are relatively limited [1–3]. In particular, the COVID-19 pandemic has severely impacted in-person education, which could negatively impact educational donations and the sustainable engagement of educational donors. During this pandemic period, researchers underscored the dynamic mechanism of consumer behavior [4], urging research on changes in educational donors' satisfaction over time [5]. For example, the expectancy–disconfirmation paradigm [6] is useful for predicting the evaluation of satisfaction and attitudes based on prior expectations of educational donors. However, it is difficult to predict changes in the impact of donors' expectations and their outcomes, highlighting the consumption-system approach domain [7]. Researchers call for an extension of this paradigm in various fields [8].

The nature of sustainability is related to how long-term a particular event can operate for, indicating that predicting educational donors' attitudes over time is indispensable. As such, this study seeks a deeper understanding of the expectancy–disconfirmation paradigm and the cycle of satisfaction for sequential relationships among prior expectations, expectations of satisfaction, and attitudes toward educational donations. Despite the existence a rich body of literature on donation attitudes in the medical field [9–11], researchers can further expand the theoretical framework on how donors' expectations, satisfaction, and attitudes change within the educational donation cycles or phases in the COVID-19 era.

After a comprehensive review of marketing, psychology, education, and medical literature, we found two theoretical domains in this relevant area. The first domain includes the expectancy–disconfirmation theory and the satisfaction cycle, emphasizing the logic of satisfaction judgments based on prior expectations [6,12,13]. For example, cross-sectional studies demonstrate that prior expectations determine satisfaction evaluations [6], and then influence attitude changes or future behavior [14,15].

The second domain focuses on the consumption-system approach, highlighting the evolutionary stages of the repetitive consumption experience [7,16]. This domain focuses on how consumer experience evolves during subsequent events by demonstrating the sequential impact of individual constructs. For example, Pan and Ha [5] demonstrate that prior expectations have no direct effect on future behavioral intentions but indirectly influence these intentions by adjusting donors’ expectations after experiences.

These domains play a critical role in the settlement of satisfaction theory. However, particularly in the case of educational donations, if a donor participates in an educational donation program for the first time and wants to participate in the same event in the future, are their experiences the only driving force? This question highlights the research gap in the failure to consider changes in donors’ motivation, although donors’ experiences pre- and post-participation in educational programs are also important. This is because donors may have different levels of motivation for their subsequent participation in a program after their initial participation [17,18]. If their initial donation was satisfactory, would their attitudes toward educational donation decrease naturally, even if their motivation is low? Our focus on these unexplored issues is essential to underscore the value of educational donations. These gaps strongly advise researchers to pursue evolutionary processes and relational connectivity through a combination of satisfaction-relevant theories and motivation theory. Thus, the main objective of this study is to integrate these theories into a theoretical mechanism and examine how the relationships between prior expectations and their outcomes are changed by the moderating role of motivation during educational donation events.

To answer our research questions on the gaps in the literature, we propose a conceptual model with motivation levels as a moderating variable. This study provides important contributions in two ways. First, the process through which attitudes toward educational donations are established through a sequential relationship mechanism substantially expands the evolutionary phases of individual constructs beyond the marketing, psychological, and educational contexts. Second, by demonstrating how motivation levels (T2) are involved in both the relationship between expectation of satisfaction (T2) and attitudes (T3) as well as between prior expectations (T1) and attitudes (T3), this study updates the satisfaction cycle model and the expectancy–disconfirmation theory. Thus, this study not only pursues a theoretical extension but also provides practical insights to realize sustainable educational donations.

## 2. Conceptual Background

Consumer behavior has been drastically changed by the COVID-19 pandemic [19]. This requires a reinvestigation or theoretical extension of how changes in consumer behavior influence the existing theoretical frameworks. More specifically, there is a need to track the changes in consumer behavior regarding prior expectations, satisfaction, and attitudes before and after an educational donation experience. Our approach to explaining these changes is consistent with McKinsey & Company’s report [20] and Pan and Ha’s study [5], underscoring the shifts in consumer behavior for new experiences.

As such, satisfaction focuses more on a customer’s accumulated experience than a transaction with a particular product or service [21,22], highlighting the dynamic importance of satisfaction. As satisfaction is dynamic, evaluations are formed based on prior expectations (T1) of a particular object [6,23]. Here, prior expectations refer to one’s belief regarding an object prior to experiencing it. This belief can be evaluated after experiencing

or consuming a product or service [22,23]. Thus, satisfaction is assessed by comparing prior expectations and actual experiences (or performance) [21].

While both the expectancy–disconfirmation paradigm and the satisfaction cycle model have addressed the linkage between prior expectations and satisfaction [6,14,21,22] well, the literature has mainly investigated this linkage based on products or services. In the context of educational donations, if a donor wishes to participate in a particular program, they must have expectations about it. These prior expectations facilitate certain behaviors, affecting the overall emotional evaluation after participating in educational donations. Logically, if a person intends to participate in subsequent educational events (T3), the person's satisfaction after an educational donation (T2) should be evaluated positively [2]. In this case, prior expectations (T1) should change attitudes toward participating in the next event. This is because prior expectations affect the formation of subsequent attitudes toward an object [24]. More specifically, since attitude is a psychological tendency that expresses a favorable or unfavorable entity toward a particular object [25], prior expectations before actual experiences have a crucial effect on attitude formation and the resulting attitude change after the experience. Thus, the following two hypotheses are proposed:

**Hypothesis 1 (H1).** *Educational donors' prior expectations (T1) positively affect their satisfaction after participating in educational events (T2).*

**Hypothesis 2 (H2).** *Educational donors' prior expectations (T1) positively influence their attitudes toward subsequent education programs (T3).*

As noted earlier, our fundamental contribution is the examination of whether both the antecedents and outcomes of satisfaction have sequential relationships over time. In particular, we are interested in the phases of the satisfaction cycle (i.e., before participation, one week after participation, and one month after participation). Once educational donors have participated in a particular program, they typically form an attitude toward the educational event, regardless of whether they later participate in a new educational donation program. Thus, donors are likely to rely on or attempt to match their prior satisfaction, as exposure to a new stimulus often triggers an immediate change in attitudes [26]. Thus, we proposed the following hypothesis:

**Hypothesis 3 (H3).** *Educational donors' satisfaction (T2) positively influences their attitudes toward subsequent education programs (T3).*

Motivation is a hypothetical construct that drives consumer behavior [27] and explains why consumers choose a particular event (e.g., product, service, or donation). In other words, motivation creates a driving force for achieving a goal for a specific event [28]. As a result, the causal relationship between prior expectations of a specific event and goal orientation plays an important role in facilitating an attitude toward a specific event [29]. Here, choosing a particular action for an expected result implies that (1) the action is goal-directed, (2) the consumer already had an expectation, and (3) the consumer formed an attitude toward the specific event for the action [30]. Logically, H2, proposed in the context of educational donations, can affect attitudes toward an educational donation if motivations are involved in the proposed relationship. For example, highly motivated participants may update their expectations, resulting in a more favorable attitude toward educational donations than that of less motivated participants. Thus, we propose the following hypothesis:

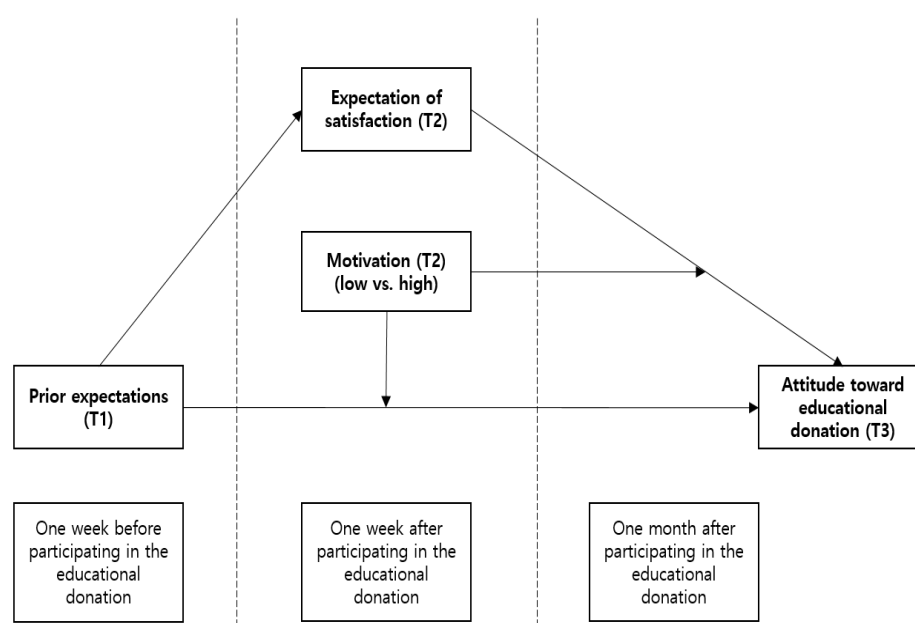
**Hypothesis 4 (H4).** *The relationship between prior expectations (T1) and attitudes (T3) is stronger for highly motivated participants than for those with less motivation (T2).*

Educational donors' satisfaction predicts the sustainability of the pre- and post-educational events [31,32]. This is because the goal orientation of motivation for future

educational events can change depending on donors' satisfaction [33]. Therefore, when satisfied donors upgrade their attitude toward educational donation events, the attitude change can vary according to their motivation level. For example, if motivation is high, the attitude of a satisfied donor may be more favorable than that of a donor with less motivation. In line with these observations, we propose the following hypothesis:

**Hypothesis 5 (H5).** *The relationship between the expectation of satisfaction (T2) and attitudes (T3) is stronger for highly motivated participants than for those with less motivation (T2).*

In summary, Figure 1 conceptually presents a model for the overall hypotheses. This model demonstrates the longitudinal design using three time-lag intervals, and the sequential relationships of each construct are schematized over time. Finally, it shows how the expectations of linkage between satisfaction (T2) and attitudes (T3), as well as prior expectations (T1) and attitudes (T3), are moderated by the motivation level.



**Figure 1.** Conceptual model.

### 3. Methodology

#### 3.1. Data Collection

We collected data from those who participated in educational donation programs in Korea. As the number of new educational donors was minimal during the COVID-19 pandemic, we limited our sample to those who first made educational donations in 2022. To this end, we used a sample framework targeting donors who registered at Donations for Education ([www.teacherforkorea.go.kr](http://www.teacherforkorea.go.kr) (accessed on 1 July 2022)). Through collaboration with a local educational donation center, we identified the program schedules of education donors in advance and communicated with them before and after their donation programs. In particular, the sample was related to the donor population, because, in the case of non-educational donors, it was difficult to collect longitudinal data, as the nature of educational donations was ambiguous and there was no experience in educational donations.

This study was designed as a longitudinal study targeting the same respondents over three time-lag intervals. We identified 378 donors who met our sample criteria and contacted them via email and text message. In T1 (one week before donors joined the programs), we conducted the initial survey from early to late September 2022. We obtained 275 responses, excluding 17 unreliable responses. In T2 (one week after participating in the educational donation programs), we conducted the second survey with the same

participants ( $n = 275$ ) as in T1. The survey methodology was the same as in T1, and 241 usable responses were collected. In T3 (one month after participating in the educational donation programs), we conducted the final survey with the same participants ( $n = 241$ ) as in T2. We obtained a total of 215 responses, excluding eight unreliable responses. In the case of a longitudinal study, the number of participants tends to decrease as survey intervals increase. In addition, the sample size of this study was acceptable in terms of the type I error method [34].

Of the participants, 68.6% ( $n = 146$ ) were male, and 81.8% ( $n = 174$ ) had participated in educational donation programs at least twice. The programs with the highest participation frequency were coding information ( $n = 45$ , 21%), followed by robot technology ( $n = 37$ , 17.2%), the Internet of Things (IoT) ( $n = 29$ , 13.4%), instrumental music performance ( $n = 23$ , 10.7%), oriental medicine ( $n = 16$ , 7.4%), autonomous driving ( $n = 9$ , 4.1%), and other programs ( $n = 56$ , 26.2%). Most of the donation programs focused on cutting-edge technologies.

### 3.2. Measures

As shown in Table 1, all constructs were measured with items used in previous studies. We measured prior expectations using three items adapted from the work of Yi and La [23]. The expectation of satisfaction was measured using two items adapted from the work of Wong and Dioko [35]. We applied the goal-framing theory [33] to measure donor motivation. For this purpose, donor motivations were measured using hedonic, normative, and gain dimensions [36,37]. Finally, we measured attitudes toward educational donations using three items adapted from Campbell and Wright [38]. All items were measured on a seven-point Likert scale anchored from “1 = strongly disagree” (or very dissatisfied) to “7 = strongly agree” (very satisfied).

**Table 1.** Survey measures and CFA results.

| Scale Items                                                                                                                                                          | Loading | AVE  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------|
| <i>Prior expectations (T1) (Cronbach’s alpha = 0.83; CR = 0.90)</i>                                                                                                  |         |      |
| I expect the program to motivate me to participate.                                                                                                                  | 0.74    | 0.61 |
| I expect the program to be useful to students.                                                                                                                       | 0.83    |      |
| How successful do you expect the program to be, overall?                                                                                                             | 0.78    | 0.64 |
| <i>Expectation of satisfaction (T2) (Cronbach’s alpha = 0.78; CR = 0.90)</i>                                                                                         |         |      |
| I am overall satisfied with the educational donation program. To what extent did the overall performance of the educational donation program meet your expectations? | 0.79    |      |
|                                                                                                                                                                      | 0.82    |      |
| <i>Donor motivations (T2) (Cronbach’s alpha = 0.86; CR = 92)</i>                                                                                                     |         |      |
| Program enjoyment.                                                                                                                                                   | 0.91    | 0.68 |
| Helping students develop their talents.                                                                                                                              | 0.80    |      |
| Gaining self-esteem.                                                                                                                                                 | 0.77    |      |
| <i>Attitude toward educational donation (T3) (Cronbach’s alpha = 0.80; CR = 88)</i>                                                                                  |         |      |
| Bad/Good                                                                                                                                                             | 0.76    | 0.62 |
| Dislike/Like                                                                                                                                                         | 0.74    |      |
| Unfavorable/Favorable                                                                                                                                                | 0.87    |      |

Note: CR = Composite reliability.

## 4. Results

We conducted confirmatory factor analysis using AMOS 23 to analyze the measurement model. To this end, we used the two-step approach suggested by Anderson and Gerbing [39]. First, the overall fit of the measurement model was excellent, which is demonstrated as follows:  $\chi^2(df) = 51.664(38)$ , CFI = 0.987, GFI = 0.958, TLI = 0.987, and RMSEA = 0.041. As shown in Table 1, all loadings exceeded the minimum level of 0.7 required by structural equation modeling. The composite reliability (CR) and Cronbach’s alpha values were satisfactory, and the average variance extracted (AVE) values were above 0.5. Thus, we concluded that convergent validity was secured [40,41].

The second approach was used to test discriminant validity. To this end, we used the criteria of Fornell and Larcker [42], which states that the AVE value should be greater than the squared value of the correlation between the constructs. As shown in Table 2, the squared values were smaller than all AVE values, demonstrating that discriminant validity was acceptable. Meanwhile, as Fornell and Larcker's criterion has been recently criticized, we additionally evaluated discriminant validity using the heterotrait–monotrait ratio of correlations (HTMT) [43,44]. In doing so, we used HTMT's conservative criterion, and all correlation values were lower than 0.85, indicating that discriminant validity was also satisfactory (see Table 2).

**Table 2.** Discriminant validity.

|                                    | Mean (SD)   | 1           | 2           | 3           | 4           |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Fornell–Larcker Criteria           |             |             |             |             |             |
| 1. Prior expectations              | 5.11 (1.31) | <i>0.61</i> |             |             |             |
| 2. Expectations of satisfaction    | 5.21 (1.38) | 0.32        | <i>0.64</i> |             |             |
| 3. Donor motivation                | 5.49 (1.28) | 0.27        | 0.28        | <i>0.68</i> |             |
| 4. Attitudes                       | 5.48 (1.34) | 0.40        | 0.44        | 0.42        | <i>0.62</i> |
| Heterotrait–Monotrait Ratio (HTMT) |             |             |             |             |             |
| 1. Prior expectations              |             |             |             |             |             |
| 2. Expectations of satisfaction    |             | 0.38        |             |             |             |
| 3. Donor motivation                |             | 0.31        | 0.34        |             |             |
| 4. Attitudes                       |             | 0.48        | 0.55        | 0.50        |             |

Note: Italics indicate AVE values.

To test our hypotheses, we used the PROCESS macro ( $M = 15$ ). This analytical method is beneficial for analyzing mediated or moderated moderation effects and makes this entire procedure easy [45]. In addition, this method has the advantage of clearly presenting a relative comparison of moderating effects by demonstrating a strong visualizing interaction [46]. To this end, donor motivation, a moderating variable, was dummy-treated as low (0) and high (1) motivations based on the mean value (Mean = 5.49).

Table 3 presents estimates for the proposed hypotheses. H1 tested the relationship between prior expectations (T1) and the expectation of satisfaction (T2). The relationship was statistically significant ( $b = 0.64$ ,  $p < 0.01$ ), supporting H1. H2 verified the additional direct effect of prior expectations on attitudes toward educational donations (T3). The relationship was highly significant ( $b = 0.88$ ,  $p < 0.01$ ), supporting H2. H3 tested the relationship between the expectation of satisfaction (T2) and attitudes toward educational donations (T3) after participating in donating. The relationship was positively significant ( $b = 0.46$ ,  $p < 0.01$ ), supporting H3.

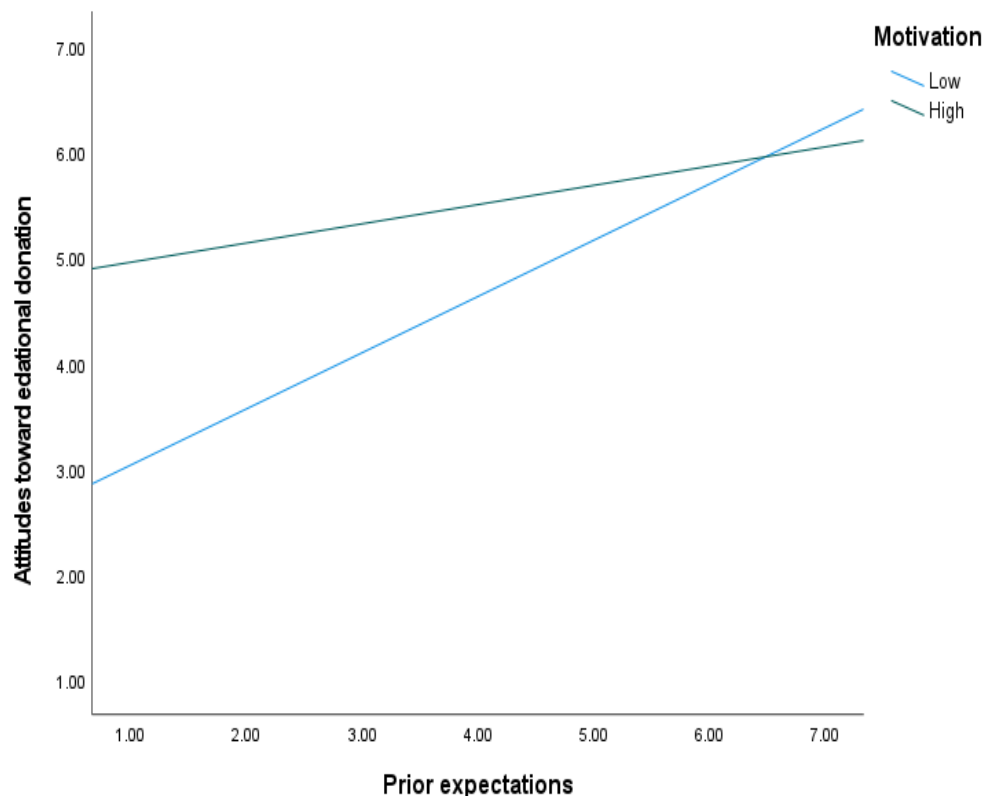
**Table 3.** Regression estimates.

| Path                                          | B     | t-value    | LLCI    | ULCI    |
|-----------------------------------------------|-------|------------|---------|---------|
| Prior expectations—satisfaction (H1)          | 0.64  | 3.47 **    | 0.2722  | 1.0055  |
| Prior expectation—attitudes (H2)              | 0.88  | 4.78 **    | 0.5199  | 1.2473  |
| Satisfaction—attitudes (H3)                   | 0.46  | 2.78 **    | 0.1348  | 0.7893  |
| Prior expectations $\times$ Motivation (H4)   | −0.25 | −0.21 *    | −0.4888 | −0.0173 |
| Prior expectations $\times$ satisfaction (H5) | −0.12 | −0.09 (ns) | −0.3379 | 0.0973  |

Note: \*,  $p < 0.05$ ; \*\*,  $p < 0.01$ . (ns) = not significant.

The following hypotheses were tested for the moderating effects of donor motivation. H4 focused on how the moderator was involved in prior expectations and attitudes toward educational donation. The moderating relationship was statistically significant ( $b = -0.25$ ,  $p < 0.05$ ), supporting H4. Meanwhile, H5 tested the relationship between the expectation

of satisfaction (T2) and attitudes toward educational donations (T3). Interestingly, the proposed relationship was not supported ( $b = -0.12, p > 0.05$ ). In particular, the results of H4 are explained in more detail in Figure 2.



**Figure 2.** Graph of the moderating effect for the prior expectations-attitudes linkage.

As shown in Figure 2, even if donors' prior expectations (T1) are low, attitudes toward educational donation (T3) increase if their motivation to participate in donor programs (T2) is high. In contrast, even if donors are less motivated to participate in the donor programs (T2) and if their prior expectations (T1) are high, their attitudes toward educational donations (T3) increase. Interestingly, the stronger the donors' motivation and the more positive the prior expectations, the more attitudes toward educational donations gradually become favorable. However, the less motivated the donors are and the more positive the prior expectations are, the more favorable the attitudes toward educational donations sharply increased.

## 5. Discussion

This study examined the sequential relationships among prior expectations, expectations of satisfaction, and attitudes toward educational donations using longitudinal data. From a sustainable perspective, the diffusion of educational donations provides ample evidence of how donors' expectations positively affect satisfaction and attitude throughout the overall process of educational donations. In this sequential process, we further investigated how donor motivation was involved in the proposed relationships among these variables. In particular, three main findings emerge from the longitudinal data that we studied that must be of interest to scholars and managers. Our results show the following:

- The relationship between prior expectations (T1) and attitudes toward educational donations (T3), which had been focused on only as a conceptual idea in prior research, is positive on a longitudinal basis. Similarly, the relationships between prior expectations and the expectation of satisfaction (T2) and between the expectation of satisfaction (T2) and attitudes toward educational donations (T3) are also positive during subsequent educational donation events.

- While the linkage between prior expectations and attitudes toward educational donations is negatively moderated by the role of donor motivation, the moderator does not control the relationship between the expectation of satisfaction and attitudes toward educational donations.
- Even if prior expectations are low, if the donors' motivation to participate in educational donations is high, their attitudes toward educational donations are more favorable than those of donors who are less motivated to participate in educational donations. However, even when motivation is low, if prior expectations gradually increase, their attitudes become favorable more rapidly than those of donors with high motivation.

In line with these observations, our results answered the following unexplored questions: (1) If a donor participates in an educational donation program for the first time and wants to participate in the same event in the future, are their experiences the only driving force? (2) If their initial donation was satisfactory, will their attitudes toward educational donation decrease naturally, even if their motivation is low? Therefore, our findings advance theoretical knowledge and practical implications in several ways.

### 5.1. Theoretical Implications

This study contributes to the literature on satisfaction in two ways. First, we demonstrate the importance of tracking customer satisfaction from a sustainable perspective. We show that prior expectations regarding satisfaction also influence favorable attitudes toward educational donations after participation. The cycle of satisfaction model proposes a sequential relationship of the prior expectations–satisfaction–attitudes linkage; however, this study extends Oliver's model [22] by additionally proving the direct effect of prior expectations on attitudes. Furthermore, our findings support the attitude theory through empirical evidence that expectations formed in the past reinforce the formation of favorable attitudes in the future [25]. Thus, our findings suggest a series of sequential processes, as satisfaction judgments at a specific time may not represent the full picture of the satisfaction cycle [21].

Second, this study investigated the moderating role of donor motivation in influencing attitude formation processes. We demonstrate that prior expectations (T1) in the early stage before participating in educational donations affect future attitudes (T3) by the moderating level of donor motivation (T2) in the next stage. In other words, motivation seems to play an important role in judging attitude adjustment when prior expectations have not been recently adjusted, which is consistent with empirical heuristics related to how donors feel about it [47]. However, favorable attitude formation is more prominent when donor motivation is low but prior expectations are high. That is, in this case, the slope of favorable attitude formation increases more rapidly than when donor motivation is high.

### 5.2. Managerial Implications

This study also provides insights for enhancing managers' knowledge of increasing participation in educational donations. Specifically, if prior expectations are consistent with the educational donation experience, satisfaction judgments are stable and attitudes toward educational donations are predictable. We emphasize the importance of capturing how prior expectations can influence satisfaction judgments, resulting in favorable attitudes, either directly or indirectly. If a donor's prior expectation is low, managers should strategically increase donor motivation after participating in educational donations. For example, managers could design individualized programs in which the upcoming educational program's characteristics will attract donors' attention compared to the previous program.

Our findings provide further insights for research on donor satisfaction by suggesting that when donor satisfaction is positive, attitudes toward education donation do not depend on conditional motivation. In other words, if a donor is satisfied, the motivation to make further donations does not significantly affect favorable attitude formation. This underscores that the donor's satisfaction status is stable, and the role of motivation is thus limited. Therefore, managers should always track and manage donors' satisfaction at the

end of a donation program. For example, rather than expanding programs to manage donor satisfaction, a strategic approach should strengthen donor expectations by allocating budgets to program development focusing on donor capabilities. For example, if a donor is an electric vehicle expert, designing the first donation stage as an introductory course for electric vehicles and the second stage as a technical practice course can promote their sustainable participation.

### 5.3. Limitations and Future Research Directions

This study has several limitations that require future research. First, although we used motivation as a moderating variable, there are potential variables that can be considered important in educational donation research. In actual educational donations, minimal financial support (e.g., support for transportation expenses) is provided; however, non-monetary support (i.e., honors club activities that inspire donors' emotional satisfaction) also exists. Thus, it can be challenging to consider changes in attitudes toward educational donation, demonstrating the difference in the moderating effect between monetary and non-monetary support.

Second, although the moderating role of motivation was not significant in the relationship between satisfaction and attitudes toward educational donation, we urge further research because the proposed relationship may vary depending on the type of participants (e.g., elementary, middle, and high school students). Therefore, how researchers elaborate on motivation based on the type of program participants is important for expanding the satisfaction cycle model [22] through adjusted expectations and attitude changes after participation in educational donations.

## 6. Conclusions

Extant research on satisfaction depends on consumer-centric models that examine behavior change from either a cross-sectional or a longitudinal perspective. However, from an educational donation perspective, demand-centered programs are also important, though longitudinal studies on the attitude formation process based on donors' satisfaction have been particularly limited. This study examined the sequential relationships among prior expectations, expectations of satisfaction, and attitudes toward educational donations using longitudinal data. Using empirical evidence from three time-lag intervals, we determine that the relationship between prior expectations (T1) and attitudes toward educational donations (T3), which has only been focused on as a conceptual idea in prior research, is positive on a longitudinal basis. Interestingly, while the linkage between prior expectations and attitudes toward educational donations is negatively moderated by the role of donor motivation, the moderator does not control the relationship between the expectation of satisfaction and attitudes toward educational donations. Given the theoretical and practical insights into educational donors' responses, we recommend further studies that will robustly complement our work.

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