

RESEARCH ARTICLE

Effect of Digital and Financial Awareness of Household Womens on the Use of Fin-Tech in India: Observing the Relation with (Utaut) Model

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Abstract: Era of COVID-19 resulted in contactless transactions and extensive use of technological applications. Similar was the case of Fin-Tech which has extensively been used by consumers around the globe for making transactions and other financial and economic needs. Although there is a lack of research to reflect these forms of evidence from the developing as well as Indian sides of the globe. On the other side, some studies indicated the Unified Household Acceptance and Use of Technology (UTAUT) model as the base to prefer mobile methods of transaction and Fin-Tech use. Hence this paper has been developed systematically to relate the financial literacy of household females from Generation Y with the use of Fin-Tech during the eve of COVID-19. For devising this relationship research has been induced with the UTAUT model and data have been collected from married household females between twenty-four to thirty-five years of age. Results were analyzed through SMART-PLS which highlighted the financial literacy of Indian household females has a significant association with UTAUT model. However, the entire UTAUT model does not have a significant relationship with the use of Fin-Tech.

Keywords: SMART-PLS, Fin-Tech, COVID-19, Household females, UTAUT model & financial awareness

1. Introduction

In recent times technology became an integral part of the financial sphere. In fact, there is a well-known notion to highlight the linkage between finance and technology named as “Fin-Tech” Vasenska et al. ^[1]. Fin-tech can sim-

ply be defined as the innovation based on integration of finance and technology to provide liberty to consumers to access new products, markets, models and applications. This will not only have resulted in formulation of financial industry but also foster competition among elements of the industry, Daragme, Lentner & Sagi ^[2]. Technically

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explaining the purpose of Fin-Tech is to propose technological solutions that may lead to new business models in order to solve real-world problems. Thus, the sector is progressing with a fast pace although the revolution started in the twentieth century with the launch of the automatic teller machine (ATM) by Barclay's Bank, Vasenska et al. [1]. However, in recent times the outbreak of COVID-19 resulted in tremendous growth of the Fin-Tech sector as people seem reluctant to conduct physical transactions and face-to-face interactions, Daragmeh, Lentner & Sagi et al. [2]. However, there are few studies that examine the impact of an outbreak of COVID-19 on the increased use of Fin-Tech e.g. Benni [3], Hill, J. A. [4], and Fu, J., & Mishra, M. [5] etc. However, most of the studies under this vein are from Asian sides of the world or not from specific genders as well as Asia. Hence the purpose of this paper is to uncover the impact of COVID-19 on the use of Fin-Tech from India.

2. Statement of Problem

There are several studies which relate theories like Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Technological Readiness etc. with the adoption of Fin-Tech, Setiawan, B. et al. [8]. However, for the adoption of Fin-Tech there is also a need for financial literacy, as financial literacy is the prime tool which makes users comfortable with innovative products, Morgan, P. J. et al. [6]. On the other side, research from developed sides of the world failed to report a higher level of financial literacy Morgan, P. J. et al. [7]. In fact, researchers are unaware of any study which relates financial literacy with the use of financial technology, Morgan, P. J. et al. [6]. Therefore, there is a need to explore the relationship between financial literacy and the use of financial technology. However, previous studies also indicated that the adoption of Fin-Tech was actually caused due to technological orientation, Setiawan, B. et al. [8]. Therefore, the two-fold purpose of this study is also to explore the base of the relationship that either it is based on financial literacy or based on technological orientation.

Theoretical Framework

One of the initial studies conducted by Samartín, M. et al. [9] indicated that it might be men who mostly take financial household decisions. Although it is not clear and definitely there is a gap of understanding with respect to gender and their ability to take financial decisions. This postulate has been supported by Khan, K. A. et al. [10] that generations and sex have the key impact on the rate of technological adoption. On the other side, previous studies e.g., Laywill et al. [8] highlighted the Unified Theory of

Acceptance and Use of Technology (UTAUT) as the source to use Fin-Tech applications. Similar has been indicated by Hill, Binni, and Huang et al. [4].

However, studies like Morgan, P. J. et al. [6] indicated the global relationship of the COVID-19 pandemic on the adoption of Fin-Tech; therefore, this study uses COVID-19 as the major predictor for the adoption of Fin-Tech during COVID-19 with serial mediation of the UTAUT model. Moreover, the study uses Generation-Y to gauge the impact of the COVID-19 pandemic on the adoption of Fin-Tech. Generation-Y was found to have more technological orientation, even in comparison to Generation-Z [10]. On the other side, the study of Latha, R. et al. [11], explores the linkage of UTAUT Theory as the source of adoption of e-wallets from females in Jakarta. Results indicated that female perceives that the use of e-wallet will make the purchase easier. The study was carried out during COVID-19; therefore, it is not vague to perceive that one of the reasons to use e-wallets was COVID-19. Therefore, this study takes the reference of household wives, Hardini, H. T. et al. [12] for measuring the impact of financial literacy on the use of Fin-Tech during COVID-19. However, to gauge financial literacy, research work capitalizes only on the initial parameter as the parameter (Financial Literacy) found on the lower side, even in developed countries, Laywill et al. [8].

3. Literature Review

The middle of the twentieth century was the era when we start observing the association of information technology with financial services. The initial step was taken by Barclays through the introduction of an automated teller machine, Daragmeh, A. [2]. On the other side, there is well-developed literature to relate financial literacy and various financial & economic behaviors. Through research, the focus was significantly increased due to the economic downturn 2008-2009 which resulted in several scams and scandals associated with borrowings and investment activities, Morgan, P. J. [6]. Similar is the case of the outbreak of COVID-19 which also resulted in economic downturn, Mirza, S., Sandhu et al. [13]. Thus, also enforces severe investigation towards the use of Fin-Tech e.g. Morgan, P. J. et al. [6]. Study of Fu, J., & Mishra [6] indicated severe download of financial applications by consumers all over the globe. However, according to the study, traditional banks gain more value as compared to the well-known Fin-Tech firms. Similar has been indicated by Yadav et al. [42], i.e. pandemic causes consumer shifts towards and massive shift has been observed in form of consumer preference towards mobile and digital forms of money transfer.

Though findings bit of findings by Hill [9] are different from [5] as study indicated that banks in US tied knot with

Fin-Tech firms in order to survive the downturn. However, increase in the rate of development of Fin-Tech also raises the requirement of increase in consumer knowledge to deal with more sophisticated level of technology as well as products Fu, J. et al. [5]. Although, generation found to be more inclined towards the use of technology as compared to Generation-Z Murugan P. Trinh et al. [7], while studies were failed to provide surety regarding more inclination of any particular gender towards the technology. However, recent studies highlighted gender orientation as the major predictor of technological inclination, Latha, R. et al. [11]. Linking the literature with the implication of UTAUT model it has been reflected that performance expectancy is a significant predictor of using technological applications for mobile payments, Saunders, M., Lewis et al. [14]. Similar has been reflected by the survey [43], while the other study by Dmitri et al. [15] indicated that effort expectancy is the prevalent predictor of the use of a mobile wallet.

4. Research Methodology

4.1 Research Design

The paper uses epistemology as the research philosophy as the purpose of the study is related financial literacy of household females with the use of Fin-Tech. These sort of studies were previously conducted in developed & western countries (e.g. Khan, K. A. et al. [10], similarly there are also some studies which explores the linkage of UTAUT theory with the use of Fin-Tech e.g. Dmitri, V. [15]. However, the linkage was rarely tested not only in western and under-developed world but also for the linkage of financial literacy with UTAUT model and its associations with the use of Fin-Tech. Therefore, in consideration with Hair Jr et al. [16], the philosophy of research is epistemology as the purpose of the study to devise the theoretical linkage as well as to optimize research work with reference to under-developed and eastern sides of the world. However, various parts of the research model were previously through a quantitative approach i.e. Mirza, S. [13] and Setiawan [8], and therefore the philosophical stance associated with the study is post-positivism Žukauskas, et al. [19].

4.2 Sampling Design

The sampling design followed Prasad et al. [22] which was based on convenience sampling to collect information about digital financial literacy in India. However, the study was descriptive and no inferential outcomes were carried out. Therefore, in order to conduct the study effectively, researchers take the reference of Hardini and Bahtiar and yadav et al. [28] in order to collect data from housewives during the days of the pandemic. However,

the sample used by Yadav et al. [29] was only of hundred respondents which might not be sufficient to justify the results when the aim of study is to link financial literacy with UTAUT and then to use of Fin-Tech in the days amid COVID-19. Hence this study takes the reference of Yadav et al. [29] and Hair et al. to use 10-10 rule. After calculating the number of arrows pointing towards each indicator the sample size for the study is 300.

4.3 Questionnaire

Research Instrument is a hybrid of different studies like Yadav et al. [25] and Yadav et al. [29] for financial literacy, Khan et al. [10] and Yadav et al. [28] are used to reflect the use of technology and use of Fin-Tech. However, the instrument has been based on the Likert scale in order to comply with [27] and [44] to avoid delay in data collection the questionnaire has been circulated physically as well as through online mode. Initially, 400 questionnaires were circulated though number of questionnaires received were 15% less than the number of questionnaire circulated i.e. 340. Therefore, the response rate was 85% but among 340 received questionnaires 22 were not adequately filled and 10 questionnaires were rejected in the process of data cleaning. Therefore, this study has been based on 300 responses received from household wives on the topic of financial literacy and its linkage with the use of Fin-Tech Yadav et al. [43,44].

4.4 Software and Statistical Technique

Afthanorhan, W. M. [23] and Hasan M. E. et al. [24], use regression in order to determine results based on the financial literacy of household females amid COVID-19. Similarly, a correlation was used [21] and therefore applying SMART-PLS in order to incorporate structural equation modeling in this study is adequate enough to be applied. Similar has been reflected, that SMART-PLS is one of the most effective software when researchers have lesser knowledge regarding the theory and it is also the best alternative of CB-based SEM. Hence, use of CB-Based SEM by yadav et al. [30] might effectively be replaced by PLS-Based SEM.

5. Statistical Testing and Analysis

Through Figure 1 it has been highlighted that all the outer loading for the elements is more than 0.708 which is the benchmark criteria for the qualification of elements in descriptive statistics [31]. Although one may also have allowed to retain elements having outer loading of 0.5 or above [23], hence all the elements are adequate enough to be retained in the analysis.

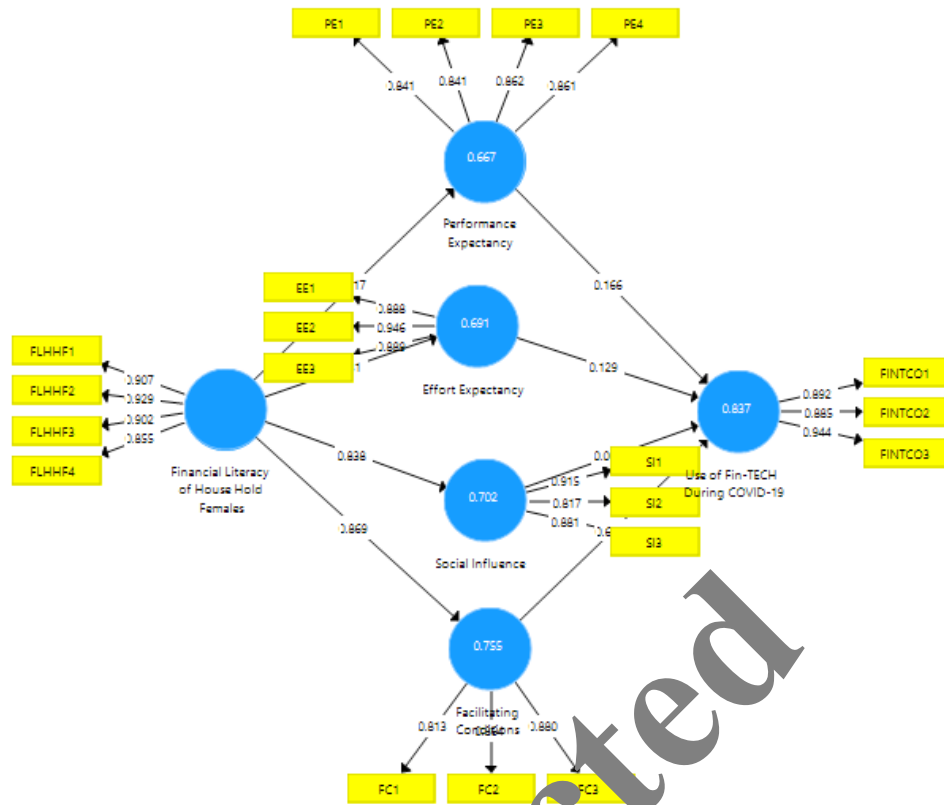


Figure 1. Outer Loadings and Confirmatory Factor Analysis (CFA)

Table 1. R² (Quality Criteria, i.e. Predictive Accuracy)

	R Square	R Square Adjusted
Effort Expectancy	0.691	0.688
Facilitating Conditions	0.755	0.753
Performance Expectancy	0.667	0.665
Social Influence	0.702	0.700
Use of Fin-TECH During COVID-19	0.837	0.832

Table 1 is indicating that the values of coefficient of determination (R-Square) as satisfactory for all the cases as the values are higher than the minimum benchmark of 0.25 and also the moderate value of 0.5. In fact, for some of the cases, the value of the coefficient of determination

is more than the substantial benchmark for the criteria (Nathanorhan, W. M. [23]). Therefore, in the light of these parameters the model is adequate enough to be tested as the change in predictor (IV) is resulting in significant change in the DVs as seen in Table 2.

Table 2 is used to reflect construct reliability, composite reliability, and convergent validity. The table includes three (3) reliability measures i.e. Cronbach's Alpha (α), Goldstein rho & composite reliability. However, according to Nunnally [21], the values of Cronbach's Alpha and Composite Reliability must be greater than 0.7 and Goldstein rho is also termed as a better reliability evaluator than Cronbach's Alpha, Žukauskas [20] and Yadav et al. [41]. Therefore, in association with these criteria table is suffi-

Table 2. Construct Reliability & Convergent Validity

	Construct Reliability and Validity			
	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Effort Expectancy	0.893	0.898	0.934	0.825
Facilitating Conditions	0.813	0.819	0.889	0.728
Financial Literacy of House Hold Females	0.920	0.921	0.944	0.808
Performance Expectancy	0.874	0.876	0.913	0.725
Social Influence	0.841	0.849	0.905	0.760
Use of Fin-TECH During COVID-19	0.893	0.898	0.933	0.823

ciently fulfilling the requirements of internal reliability (α), construct reliability, and composite reliability. However, the table is also effective in reflecting convergent validity through composite reliability and AVE as these two in addition with outer loadings are the main criteria for assessing convergent validity, Ab Hamid et al. [18]. Although, AVE with value of 0.5 or above might alone be a potent predictor of convergent validity, Yadav et al. [32]. Thus on the bases of this criterion table is sufficient in reflecting internal reliability, construct reliability, composite reliability, and convergent validity, Yadav et al. [42,43].

5.1 Discriminant Validity

Table 3 is indicating discriminant validity through Heterotrait-Monotrait Ratio and the ratio is perceived as the best tool to highlight discriminant validity by Hasan et al. [24]. Moreover, according to the table, the maximum value is 0.797 which is lesser than the 0.85 i.e. threshold criteria of discriminant validity through the Heterotrait-Monotrait ratio. Therefore, legitimate to declare that table is sufficient enough to reflect the discriminate validity through Heterotrait-Monotrait Ratio.

Table 3. Discriminant Validity

	Effort Expectancy	Facilitating Conditions	Financial Literacy of Household Females	Performance Expectancy	Social Influence	Use of Fin-TECH During COVID-19
Effort Expectancy						
Facilitating Conditions	0.593					
Financial Literacy of House Hold Females	0.490	0.663				
Performance Expectancy	0.451	0.691	0.797			
Social Influence	0.680	0.783	0.774	0.675		
Use of Fin-TECH During COVID-19	0.774	0.450	0.598	0.584	0.581	

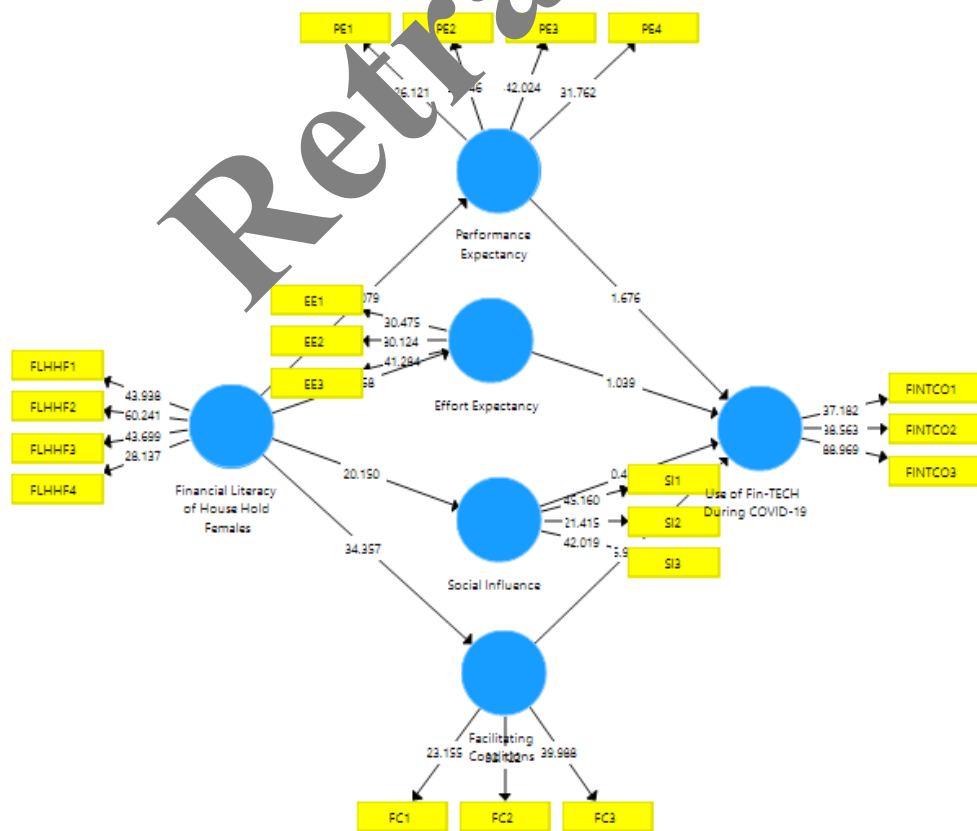


Figure 2. Path-Analysis and t-statistics

5.2 Mean, STDEV, T-Values and P-Values

Table 4 is indicating the path coefficient which has a range of -1 to +1. Vale of -1 is to indicate a negative relationship and +1 is to indicate a positive relationship, while 0 indicates no relationship Hardini et al. [12]. The table also includes t-values and p-values to induce the relationship as indicated by, Saunders, M. et al. [17] that the p-value must be lesser than or equal to 0.05 and the t-value must be greater than or equal to 1.97 Hasan M. et al. [24]. Therefore, through these criterion three variables (components), associated with the UTAUT model including effort expectancy, performance expectancy and social influence does not have an impact on use of Fin-Tech during COVID-19. However, the financial literacy of household hold the females has a positive relationship with all the components of UTAUT.

5.3. Mean, STDEV, T-Values, P-Values

Table 5 is used to indicate specific indirect relationships in order to validate claims based on the mediating relationship of the UTAUT model. The table has the same criteria of bootstrapping, t-values, and p-values to indicate the relationship. However, the purpose is to reflect the impact of predictor (IV) through a mediator(s) on DV. A similar has been done in order to show mediating relationship by Prasad et al. [22], which highlighted the rule of thumb of 0.05 or lower for p-value and 1.97 or above for t-value. Therefore, in the light of the criteria, facilitating condition is the only variable (component) of UTMT Theory which is indicating the mediating relationship between the financial literacy of household females and the use of Fin-Tech during COVID-19 [41].

Table 4. Boot Strapping (Path Analysis, t-vales & p-values)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
Effort Expectancy -> Use of Fin-TECH During COVID-19	0.129	0.146	0.124	1.039	0.299
Facilitating Conditions -> Use of Fin-TECH During COVID-19	0.608	0.608	0.102	5.984	0.000
Financial Literacy of Household Females -> Effort Expectancy	0.831	0.828	0.044	19.058	0.000
Financial Literacy of Household Females -> Facilitating Conditions	0.659	0.866	0.025	34.357	0.000
Financial Literacy of Household Females -> Performance Expectancy	0.817	0.813	0.041	20.079	0.000
Financial Literacy of Household Females -> Social Influence	0.838	0.837	0.042	20.150	0.000
Performance Expectancy -> Use of Fin-TECH During COVID-19	0.166	0.169	0.099	1.676	0.094
Social Influence -> Use of Fin-TECH During COVID-19	0.064	0.042	0.146	0.437	0.662

Table 5. Specific Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
Financial Literacy of Household Females -> Effort Expectancy -> Use of Fin-TECH During COVID-19	0.107	0.119	0.102	1.049	0.295
Financial Literacy of Household Females -> Facilitating Conditions -> Use of Fin-TECH During COVID-19	0.528	0.529	0.089	5.908	0.000
Financial Literacy of Household Females -> Performance Expectancy -> Use of Fin-TECH During COVID-19	0.135	0.137	0.081	1.678	0.094
Financial Literacy of Household Females -> Social Influence -> Use of Fin-TECH During COVID-19	0.053	0.033	0.123	0.434	0.665

6. Analysis

Through Table 4 and Table 5 it has been reflected that the financial literacy of household females is significantly related to all the parameters of the UTAUT model. Although only one component from the UTAUT model i.e. facilitating condition is positively associated with the use of Fin-Tech during COVID-19 Yadav et al. [43]. Moreover, serial mediation of facilitating conditions is also effective in relating the financial literacy of household females with the use of Fin-Tech during COVID-19. Hence on the bases of these outcomes, it is effective to indicate that the use of Fin-Tech is actually based on the level of financial literacy rather than technological inclination Yadav et al. [44]. Therefore, the claim formulated problem statement of this study is effective as serial mediation is significant only in the case of facilitating conditions Ashish Kumar et al. [45] and Ashish Kumar et al. [46].

That means facilitating conditions aids financially literate females to use Fin-Tech more often during COVID-19. Another fold of the study also indicated that financial literacy is the major force behind the technological inclination and also to prefer Fin-Tech for contactless transactions.

7. Results & Discussion

The findings of the study are consistent with the indications of Morgan and Trinh [7], as financial literacy is positively correlated with the UTAUT model. This means financial literacy makes people accept and use technology. However, relating the model of UTAUT with the use of Fin-Tech in COVID-19 only highlighted the positive correlation between facilitating conditions and the use of Fin-Tech during COVID-19. This is consistent with one of the prime purposes of this study to reflect that the UTAUT model was not actually the cause of preference for Fin-Tech by household females. Similar was highlighted [33] as Financial Literacy is required in order to make people comfortable with innovative products. Moreover, findings are based on household females of Generation Y. & when financial literacy and the UTAUT model are associated positively then legitimate to declare findings consistent with, Yadav et al. [40]. Consistency with these relations resulted in inconsistency with, Yadav et al. [39], as the findings indicated the impact of COVID-19 on the use of Fin-Tech rather than technological orientation. The statement is valid as the findings of the study are only indicating the mediating role of facilitating conditions rather than any other variable of the UTAUT model. Therefore, legitimate to declare the study is inconsistent with, Yadav et al. [34]. The same author [35] and Yadav et al. [36], indicated per-

formance expectancy and effort expectancy as the potent variables associated with the adoption of Fin-Tech.

8. Conclusions

This is one of the initial studies with reference to India that tries to relate the impact of financial literacy of household females with the use of Fin-Tech during COVID-19. Although there are some studies e.g. Yadav et al. [37] which highlighted the use of Fin-Tech during COVID-19 by Generation-X. & generation X are also claimed by the head of the families. Therefore, further studies might relate the UTAUT model with the use of Fin-Tech during COVID-19. Moreover, analysis of the model by taking generation as a control variable might also produce a significant impact. There are some limitations, because the focus of this study was only on the small sector entrepreneurs in India. Therefore, research can be conducted on a larger scale involving the performance of entrepreneurs in India to gain additional knowledge in this area of study.

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Conflict of Interest

The authors of this research would like to declare that there are no conflicts of interest linked with this research, and this research was not sponsored by anyone that could have influenced its outcomes. As the researchers of this study, the authors validate its novelty assert that this study has not been published previously, and verify that it is not presently being considered for publication elsewhere.

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