Analysis of Time, Money, and Health Education Model

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Abstract

Time, money, and health are vital resources that shape individual and family well-being. This project, developed during the pandemic, was designed to help people make rational decisions as a pathway to long-term success. Drawing on more than five years of data, the project surveyed 223 college students in a Mid-Western urban university. The researchers employed Single domain analysis, Cross-Domain analysis, and Correlation analysis to identify key patterns on college student time, money, health, and how these patterns are related to their economic wellbeing. The findings indicated the college students have a stronger time management skill than health and wealth management skills. The study also demonstrated a statistically significant correlation between time and health, health and money, money and time. These findings provide insights to inform the design of future educational programs, guide further scholarly research, and inspire policy innovation aimed at enhancing consumer and family economic well-being.

Key words: Time, Money, Health, limited Resources, Resources Management, Education Model

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Introduction

Time, Money and Health are important resources in our lives. This education model project was designed during pandemic of 2020 to assist the university community to make rational decisions for themselves and their families on their daily basis. The model helps people understand how to consider and compare their options and make decisions that will balance the resources of time, money and health minimizing future regrets and boosting future success in finance, career and health.

The key objective of this model was to educate people to form good habits and decision-making practices for a healthy and prosperous lifestyle. Time, money, and health are essential categories of resources that must be reflected upon in everyday decision making.

A secondary objective of this model was to provide reflexive self-evaluation tools regarding the decision making process and that would lead to metacognitive skills useful for breaking out of maladaptive decision-making patterns. This process of reflection and adaptation is necessary to make improvements in habits and decision-making skills that will lead to better and more desirable outcomes for individuals and their families.

This research addresses a clear gap in current knowledge by integrating three critical yet often siloed resources—time, money, and health—into a unified decision-making model. Traditional approaches to consumer and family economics emphasize financial literacy, but they often neglect how time constraints and health outcomes shape long-term well-being. Our model highlights that while money is finite and tied to opportunity costs, time cannot be replenished, and health provides the foundation for all other forms of prosperity. By examining these resources together, we provide a more holistic framework that reflects the realities families face in daily decision-making.

Theoretical framework for the Time, Money and Health Education Model

This research used Family Systems Theory to design a framework to promote community Time, Money, and Health management skills. Economic theory stresses that resources are limited and scarce, as are family resources of time, money, and health. Families are considered systems because they are made up of interrelated elements or objectives, they exhibit coherent behaviors, they have regular interactions and they are interdependent on one another (Boss, 2012). Family systems have subsystems. Each subsystem has its own rules, boundaries, and characteristics. Elements in subsystems can have direct or indirect influence on the whole system, for example, time, money, and health subsystem.

Much of the existing literature supports the existing disparities of income and health. Public health and economic development programs must have a multi-pronged and contextual approach to deal with existing disparities (e.g., programs at the federal, state, community, and individual/family levels). Additionally, models for planning community education programs and public health records both indicate “well-being promotion is more likely to be derived from interventions rooted in culturally and historically grounded contextual factors” (Bediako & Griffith, 2007).

The literature has also identified characteristics of education initiatives that prove to be most successful. For instance, an audience response system may serve to increase the effectiveness of community-based education by fostering a “participatory learning environment” and “stimulating discussions with community members” (Davis, et al., 2012). Moreover, Mead, Nagy, and Nagy (2009, page number for quote) indicate “Programs that seem to work best [in rural settings] have interactive education and physical activity components.” Other helpful characteristics are “engaging stakeholders, project-sharing across schools, advocacy and active participation in committees, and seeking sustainable funding” (Carter-Pokras, Bereknyei, Lie, & Braddock, 2010).

The location of this research is a public urban university located in Northeast Ohio surrounded by economically-challenged areas such as Akron and Cleveland metropolitan areas. Thirty percent of the residents in Akron are below the federally-defined poverty level (Akron, Ohio Poverty Rate Data, (2021). At the university, the current enrollment is 14,813 (https://www.uakron.edu/about_ua/quick_facts.dot). Among the total student population 31% are

going to school part time and 81% students receive financial aid. Yet the 6-year graduation rate is 40% indicating that more than half (60%) students do not graduate. Although accurate data does not exist to support that unhealthy lifestyle contribute to the ecosystem of student success at the university, according to Culture Quest Program funded by the university (2013-2014), fifty percent of the participants (309) did not know their BMI (Body Mass Index) before the event. Income and health disparities could be critical factors that interfere with academic and social life and economic development in the community. While one's income and health may also be related to time use on the daily basis.

In family system theory, time, money, and health are important resources for all individuals and families. This model helps people understand how to consider and compare their options, and then to make decisions that will balance the resources of time, money, and health to minimize future regrets. Considering those factors will help to boost one's future success with respect to their finances, career, and health.

Money is important in our daily life, but it is not the only important factor in our life. (McGraw-Hill, 2010). We make decisions every day; however, by learning this model, we encouraged the participants to consider their own situation and add other factor(s) that help make better decisions that will improve the chances for a successful life in the future (Zhao, et al. 2022, Zhao, 2014 & 2007). This became especially important during the pandemic, which was a time of great uncertainty that caused disruptions of resources and threats to health that forced individuals to think about the priorities of time, money, and health differently.

Money is one of the most important resources in our life. It can be used to exchange for satisfactions in our life, but we need to know the characteristics: 1. Money is exclusive---when you use it, it is gone. 2. Money has opportunity cost, so we should compare the outcomes of the choices on which we may spend it to make better decisions. 3. Money is a resource--- resources are limited, and rational people use the limited resources to their highest satisfaction, which requires rational thinking in our decision making.

Everything people do may or may not cost money, but whatever they do will surely take certain amount of time. Time is a more finite resource than money; you can make more money, but you can't make more time. As the Chinese saying goes, "An inch of gold cannot buy an inch of time". We can see how important a factor time is, which is why we need to include this factor into our decision model (See Figure 1).

One's quality of life is closely related to one's health on daily basis. Health is the foundation for our life and future---without good health, many things will be ruled out in our modern life. Good health will also bring happiness to life, not only to oneself, but also to the family and community.

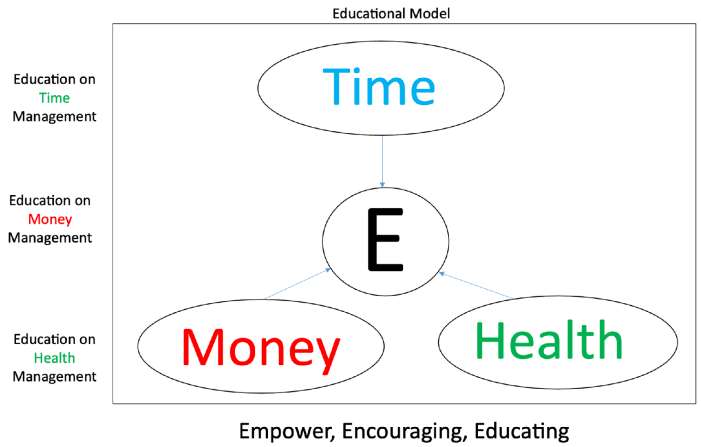

Figure 1: Time, Money and Health Education Model

Data Collection and Descriptions

The education model was applied in seminars, peer discussions, and community dialogues, where participants evaluated choices using structured questions about time, money, and health. Each question was paired with a self-reported scale. This reflective process empowered individuals to recognize trade-offs, set priorities effectively, and make choices aligned with their financial security, personal health, and overall life satisfaction.

Between fall of 2020 and May 2025, a seminar on Time, Money, and Health Education Model has been conducted every semester. After each event, the researcher collected participants' perspectives on time management, financial habits, and health awareness using the Microsoft Forms online system. The survey includes 8 questions divided into 3 sections 1) Time (3 questions), 2) Money (3 questions), and 3) health (2 questions). The participants responded to the questions by selecting a choice 0=No, 1=Yes, 2= Would like to learn more/Prefer not to answer. At online classes for undergraduate students with social work major were invited to the seminars, and required to fill out the survey. A total of 18 number of class sessions were included in this study with a total of 223 valid responses were collected.

Data Analysis

This study examined participants' perspectives on time management, financial habits, and health awareness. From the 5-year accumulated data, the researchers used (1) Single domain analysis, (2) Cross-Domain analysis, and (3) Correlation analysis to report the research results.

(1) Single domain analysis

Single domain analysis was the first step as descriptive analysis, the findings are as follows (See Tables 1-3).

Table 1. Time Related Questions and Responses (%)

Question	Yes	No	Learn more	Prefer not answer
Do you know the concept of Multitasking?	69.3%	12.2%	10.7%	7.8%
Do you have short-term plans?	79.5%	12.2%	3.9%	4.4%
Do you have long-term plans?	55.6%	22.0%	7.8%	14.6%

As shown in Table 1, Time Related Questions and Responses (%), responses indicate that time management skills are generally strong in the short term but less consistent for long-term planning. Nearly 80% reported having short-term plans, yet only 55.6% maintain long-term plans. While most participants are familiar with the concept of multitasking (69.3%), about 18.5% either wanted to learn more or preferred not to answer, reflecting uncertainty around balancing multiple tasks.

Table 2. Money Related Questions and Responses (%)

Question	Yes	No	Learn more	Prefer not answer
Do you have emergency saving habit?	57.6%	27.3%	10.1%	5.0%
Taken money management classes?	15.2%	76.3%	5.1%	3.5%
Know anyone to help manage money?	34.8%	51.5%	8.1%	5.6%

As shown in Table 2, Money Related Questions and Responses (%), financial preparedness emerged as the weakest area. Although 57.6% reported having an emergency savings habit, more than a quarter do not, leaving them financially vulnerable. Notably, 76.3%

have never taken a money management class, and only 34.8% know someone who can help them manage money. These findings highlight a substantial gap in financial literacy and access to support resources

Table 3. Health Related Questions and Responses (%)

Question	Yes	No	Learn more	Prefer not answer
Do you know your BMI?	42.3%	44.3%	6.5%	7.0%
Interested in health seminars?	52.7%	31.3%	0.0%	15.9%

As shown in Table 3, Health Related Questions and Responses (%), health-related responses reveal mixed levels of awareness and engagement. Knowledge of BMI is evenly divided, with 42.3% aware and 44.3% unaware. Encouragingly, a majority (52.7%) expressed interest in participating in health seminars, indicating a willingness to improve health literacy. However, nearly one-third are not interested, and 15.4% declined to answer, suggesting varying levels of health motivation.

(2) Cross-Domain analysis

As shown in Figure 2 and Figure 3, when comparing across domains, Time: 80% have short-term plans, but only 56% long-term, Money: 58% have emergency savings, yet 76% lack financial education, and Health: 42% know their BMI; 53% interested in health seminars. Time management scored the highest in “Yes” responses, especially for short-term planning. Health ranked second, reflecting moderate knowledge and openness to learning. Money ranked lowest, showing the most significant need for educational interventions and support structures.

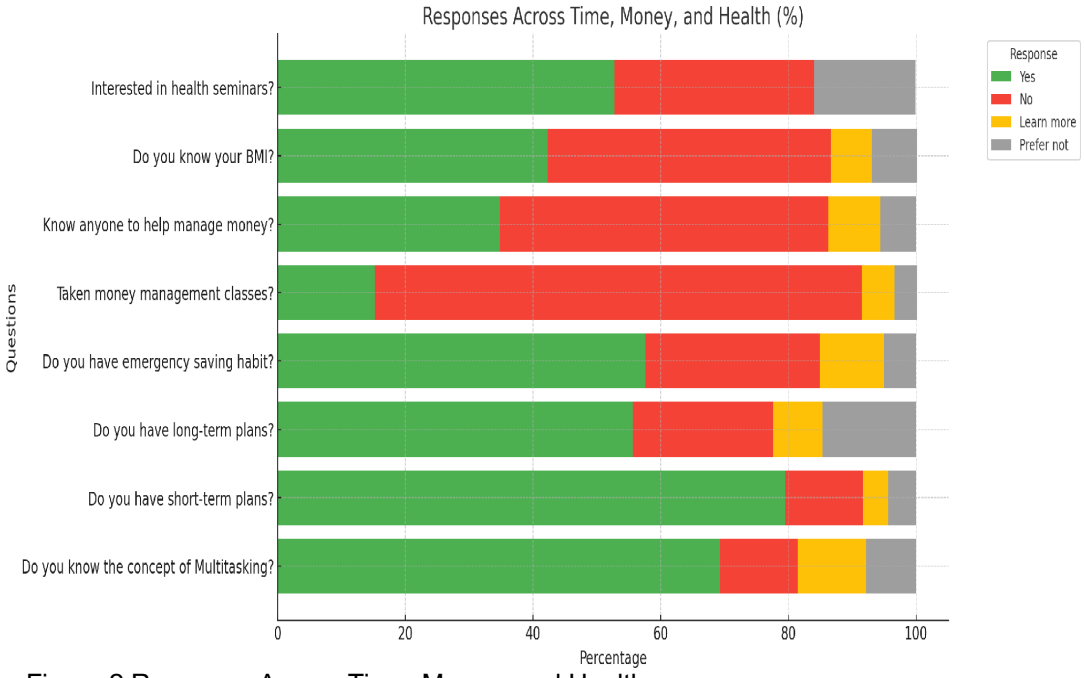

Figure 2 Response Across Time, Money, and Health

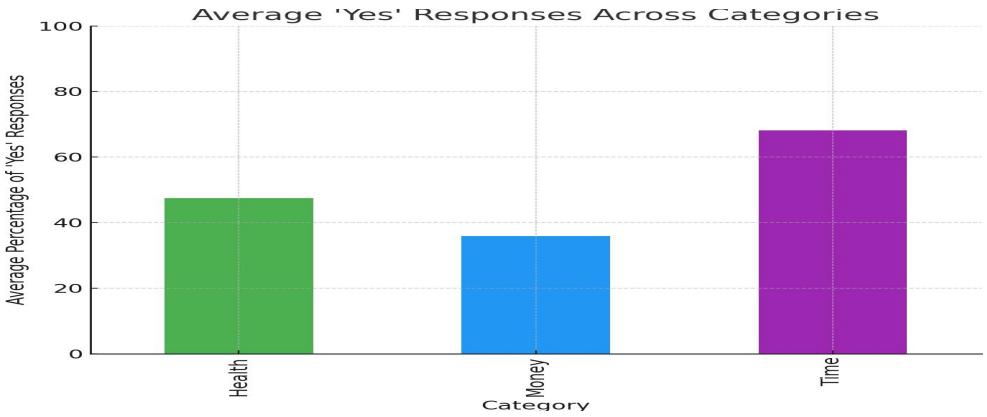

Figure 3: Average 'Yes' Responses Across Categories

From the above Figure 3, with average “Yes” responses across categories, we got an overall: Time scores highest, Health moderate, Money lowest. Or time management is strong, but financial literacy lags behind.

Implications of Cross-Domain analysis

Practice: Educators and counselors should focus on strengthening long-term planning, financial literacy, and proactive health practices among students.

Policy: Universities could integrate money management workshops and health awareness programs into the curriculum to address gaps.

Future Research: Further studies should explore why students resist long-term planning and what barriers exist in adopting financial and health habits, with attention to cultural, economic, and psychological factors.

(3) Correlation analysis

For correlation analysis, variable coding was conducted. Responses were coded as 0=No, 1=Yes, 2=Learn more/Prefer not/Hard to answer. Analytic variables included: Time (Multitask, Short-term plan, Long-term plan); Money (Emergency saving, Money class taken, Knows helper/agent); Health (Knows BMI, Stress higher, Eat healthy daily, Pandemic attention to health, Any addiction, Wants health seminars).

The limitations of Ordinal Recoding (0/1) collapses “Learn more/Prefer not/Hard to answer,” which may attenuate or bias estimates. Spearman correlations capture monotonic relations only; effects are generally small, and multiple testing inflates Type I error risk. Survey parts were merged; non-overlap reduced number to 198.

The Sample number (N=198) matched respondents across Parts: Time, Money, and Health.

The researchers conducted a Spearman correlation analysis on participants’ responses across three domains: Time, Money, and Health. Ordinal responses were numerically coded (No=0, Yes=1, collapses “Learn more/Prefer not/Hard to answer,”). Results highlight strong within-domain clustering in Health (e.g., stress, pandemic attention, and seminar interest) and weaker but significant cross-domain links (e.g., multitasking with emergency saving).

The researchers used Spearman’s rho (rank-based) to quantify monotonic associations among ordinal survey items.

Parts B (Time), C (Money), and D (Health) were merged (n=198). Responses were coded as 0=No, 1=Yes, treating non-substantive responses (“Learn more/Prefer not/Hard to answer,”) as higher uncertainty. Pairwise analyses used listwise deletion. Significance was assessed at <=0.05 (two-tailed) without multiple-comparison correction (interpret marginal effects with caution).

Variables analyzed. Time: Multitask, Short-term plan, Long-term plan. Money:

Emergency saving, Taken money management class, Knows helper/agent. Health: Knows BMI, Stress higher than pre-pandemic, Eat healthy daily, Pandemic raised attention to health, Any addiction, Wants health seminars.

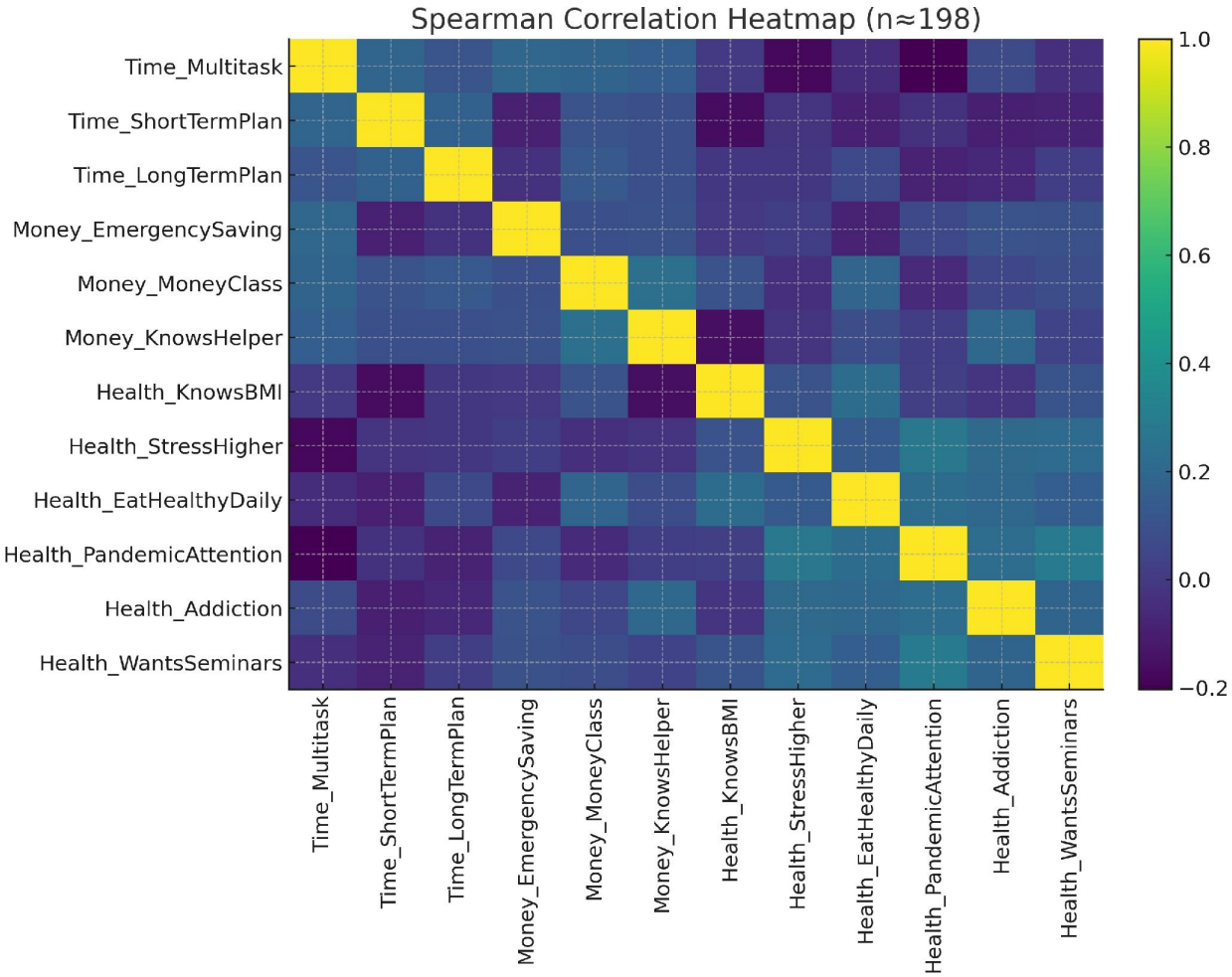

Figure 4. Spearman Correlation Heatmap

Cells show rho; color scale indicates strength. Most associations are small-to-moderate (figure 4).

Table 4. Top Significant Correlations (p < 0.05), N=198

Variable A	Variable B	Spearman ρ	p-value
Health PandemicAttention	Health WantsSeminars	0.30	-0.05
Health StressHigher	Health PandemicAttention	0.28	0.05
Money MoneyClass	Money KnowsHelper	0.25	0.04
Health PandemicAttention	Health Addiction	0.23	0.03
Health KnowsBMI	Health EatHealthyDaily	0.22	0.03
Health EatHealthyDaily	Health PandemicAttention	0.22	0.03

Health StressHigher	Health WantsSeminars	0.22	0.03
Health StressHigher	Health Addiction	0.22	0.03
Health EatHealthyDaily	Health Addiction	0.20	0.03
Time Multitask	Health PandemicAttention	-0.20	0.03
Money KnowsHelper	Health Addiction	0.20	0.03
Time Multitask	Money EmergencySaving	0.19	0.03

Table 4 highlights the most statistically significant correlations (Spearman's ρ, $p < 0.05$) among variables related to health, money, and time. With a sample size of 198, these results provide insights into how participants' behaviors, perceptions, and knowledge across different life domains are interconnected. The majority of significant relationships are found within the health dimension, though money and time-related associations also emerge.

Key results from Health-Related Correlations:

Health variables dominate the table, showing multiple moderate correlations:

Pandemic Attention and Wants Seminars (ρ = 0.30, p = 05): Individuals more attentive to pandemic-related health information are more likely to desire educational seminars on health. This suggests that awareness can stimulate proactive learning behaviors.

Stress and Pandemic Attention (ρ = 0.28, p = 05): Higher stress levels correlate with closer attention to pandemic issues, possibly indicating heightened sensitivity to health threats among stressed individuals.

Pandemic Attention and Addiction (ρ = 0.23, p = -03): Those paying more attention to the pandemic report stronger associations with addiction concerns.

Health Knowledge and Behaviors:

Knowledge of BMI correlates with eating healthy daily (ρ = 0.22, p = 03).

Eating healthy daily is also associated with both pandemic attention (ρ = 0.22, p = 03) and addiction concerns (ρ = 0.20, p = 03).

Stress and Related Health Issues: Stress is positively correlated with both desire for seminars (ρ = 0.2199, p = 1.9e-03) and addiction (ρ = 0.22, p = 03).

Taken together, these findings suggest a network effect within health behaviors—where stress, pandemic awareness, health knowledge, and lifestyle practices reinforce one another. Notably, addiction appears connected to both stress and attention to health, hinting at possible coping mechanisms or risk factors.

2. Money-Related Correlations

Although fewer in number, money-related correlations reveal meaningful associations:

Money Classes and Knows Helper (ρ = 0.24, p = 04): Those who have taken money-related classes are more likely to know a financial helper. This points to the importance of financial education in facilitating access to resources and networks.

Knows Helper and Addiction (ρ = 0.20, p = 03): Interestingly, knowing a financial helper also correlates with health addiction variables, suggesting that money and health concerns may intersect in coping behaviors.

3. Time-Related Correlations

Time management, especially multitasking, shows significant connections across domains:

Multitasking and Pandemic Attention (ρ = -0.20, p = 03): Those who multitask more tend to pay less attention to pandemic-related health issues. This negative correlation may indicate distraction or competing cognitive demands.

Multitasking and Emergency Saving (ρ = 0.19, p = 03): Individuals who multitask more are somewhat more likely to have emergency savings, suggesting a link between multitasking behavior and financial preparedness.

Interpretation

The correlations demonstrate that health awareness, stress, and lifestyle behaviors are

tightly interwoven. Individuals attentive to pandemic issues are not only more stressed but also more engaged in both healthy practices and risky behaviors (e.g., addiction). Meanwhile, financial education and support networks positively reinforce each other, and time-use behaviors connect indirectly to both health and money.

The presence of cross-domain correlations (e.g., money helper with health addiction, multitasking with pandemic attention and saving) suggests that decisions in one life domain often spill over into others. This highlights the importance of holistic decision-making frameworks when addressing well-being.

Overall, the data indicate that well-being is a multi-dimensional construct, where health, financial knowledge, and time use are interdependent. Stress, awareness, and educational exposure play crucial roles in shaping behaviors. These findings support the need for integrated interventions—for example, combining health education with stress management, or financial literacy with lifestyle coaching—to achieve more sustainable outcomes for individuals.

Table 5. Notable Cross-Domain Correlations ($p < 0.05$, Spearman's ρ)

Variable A	Variable B	Spearman ρ	p-value	Note / Interpretation
Time Multitask	Health PandemicAttention	-0.20	0.04	Negative: Higher multitasking linked to less pandemic health attention
Time Multitask	Money EmergencySaving	0.19	0.06	Positive: Multitaskers more likely to have emergency savings
Time Multitask	Money MoneyClass	0.19	0.09	Positive: Multitaskers more likely to attend money classes
Time Multitask	Money KnowsHelper	0.16	0.02	Positive: Multitaskers more likely to know a financial helper
Time Multitask	Health StressHigher	-0.18	0.01	Negative: Multitasking associated with lower reported stress
Time ShortTermPlan	Health KnowsBMI	-0.16	0.02	Negative: Short-term planners less likely to know their BMI
Money MoneyClass	Health EatHealthyDaily	0.19	0.01	Positive: Attending money classes linked to daily healthy eating
Money KnowsHelper	Health KnowsBMI	-0.15	0.03	Negative: Knowing a financial helper associated with lower BMI awareness
Money KnowsHelper	Health Addiction	0.20	0.01	Positive: Knowing a financial helper linked to higher reports of addiction

Notes:
n = (sample size consistent with dataset; e.g., 154–168 across models).
All reported correlations are statistically significant at $p < 0.05$, but effect sizes are small ($\rho \approx \pm 0.15$-0.20).
Only cross-domain correlations are shown (e.g., Time–Money, Time–Health, Money–Health).
Non-significant associations are not displayed.
Spearman's rho was used.

Table 5 highlights significant correlations between variables spanning the time, money, and health domains. These findings suggest meaningful but modest associations that link behavioral tendencies, financial knowledge, and health awareness. While the correlation coefficients are relatively small ($\rho \approx \pm 0.15$ to ± 0.20), they nonetheless reveal consistent cross-domain patterns.

Key results from Notable Cross-Domain Correlations:

1. Time Domain Correlations:

Time Multitask ↔ Health PandemicAttention

ρ = -0.20, p = 0.00

Individuals who multitask more frequently tend to report less attention to health during the pandemic.

Time Multitask ↔ Money EmergencySaving

ρ = 0.19, p = 0.01

Higher multitasking is associated with a greater likelihood of having emergency savings.

Time Multitask ↔ Money MoneyClass

ρ = 0.19, p = 0.01

Frequent multitaskers are more likely to have attended money management classes.

Time Multitask ↔ Money KnowsHelper

ρ = 0.16, p = 0.03

Multitasking is modestly related to knowing a financial helper.

Time Multitask ↔ Health StressHigher

ρ = -0.18, p = 0.01

More multitasking is linked with lower self-reported stress levels.

Time ShortTermPlan ↔ Health KnowsBMI

ρ = -0.16, p = 0.02

Individuals who rely on short-term planning are less likely to know their BMI.

2. Money and Health Domain Correlations

Money MoneyClass ↔ Health EatHealthyDaily

ρ = 0.19, p = 0.01

Attendance in money classes is positively associated with daily healthy eating habits.

Money KnowsHelper ↔ Health KnowsBMI

ρ = -0.15, p = 0.03

Knowing a financial helper correlates with lower likelihood of knowing one's BMI.

Money KnowsHelper ↔ Health Addiction

ρ = 0.20, p = 0.01

Individuals with a financial helper are more likely to also report addiction-related issues.

As shown above, the cross-domain correlations in Table 5 highlighted Multitasking and financial education, they are positively associated with certain beneficial outcomes, while short-term planning and reliance on financial helpers reveal potential trade-offs in health awareness. These findings highlight the importance of examining how skills and supports in one domain (e.g., money management) may extend—positively or negatively—into other life domains such as health.

Discussion

This study offers several implications for practice, policy, and future research. Practical Significance: Findings highlight the importance of integrating financial literacy with time and health management in educational programming. Professionals such as educators, counselors, and social workers can adapt this model in seminars, workshops, and counseling sessions to strengthen decision-making skills. Given that many participants lacked knowledge of net worth or BMI, practitioners should design targeted interventions that address both financial tracking and health awareness in practical, accessible ways.

Policy Implications: Results indicate that universities and community organizations should expand preventive education on time management, money management, and health promotion.

For example, offering credit-bearing financial education courses and wellness programs can institutionalize support for student and community well-being. Additionally, post-pandemic stress findings suggest that policies should prioritize mental health and relationship-building resources as part of consumer and family economic well-being.

Future Research: This project demonstrated success in interdisciplinary collaboration and modeling. Future studies should employ larger, more diverse samples and longitudinal designs to assess sustained behavioral change. Research should also test expanded models that include mental health and relationships, as responded by participants, to further refine holistic decision-making frameworks.

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