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The Impact of the Big Five Personality Traits on Micromobility Use Through Financial Well-Being: Insights from Bursa City, Turkey

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Abstract

This study explores factors influencing micromobility (MM) use in Bursa, Turkey, focusing on personality traits, financial well-being, weather, terrain, and demographics. Using Structural Equation Modeling (SEM) with survey data from 597 respondents, the results show that neuroticism increases MM intention, while financial anxiety decreases it. Personal competence lowers financial anxiety and security concerns. Weather negatively affects MM intention, whereas terrain conditions have no significant impact. Middle-aged individuals are more likely to use MM, while associate degree graduates are less inclined. Gender directly influences MM behavior. MM intention positively affects actual use, with financial anxiety indirectly reducing usage and neuroticism indirectly increasing it. Financial anxiety mediates the link between all personality dimensions and MM use. This study uniquely integrates personality and financial well-being into MM research, offering insights for policy measures such as financial support programs, weather-adaptive infrastructure, and training initiatives for neurotic individuals to encourage MM adoption.

Keywords: micromobility; personality traits; financial well-being; structural equation modeling; urban mobility; sustainable transportation

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1. Introduction

Urbanization problems such as traffic congestion, parking problems, and the effects of carbon emissions on the environment and public health are among the most important problems of today's cities. To solve these problems, the goals of building smart cities and providing flexible multimodal mobility have led transportation planners to alternative modes of transportation [1–4].

Micromobility (MM) vehicles such as bicycles and e-scooters stand out as a sustainable and environmentally friendly solution to these problems. With the rapid spread of sharing systems of these vehicles, MM modes of transportation have shown a great development in recent years [5]. Especially during the COVID-19 pandemic, the interest in MM vehicles increased even more as people moved away from public transportation and turned to individual transportation systems [6]. In 2020, the Turkish micromobility market was valued at USD 92.8 million. It is projected to grow significantly, reaching USD 14,711.1 million by 2030, with an impressive compound annual growth rate (CAGR) of 64.5% from 2021 to 2030 [7].

There are many studies in the literature on the factors affecting people's transportation mode preferences. In these studies, travel time and cost stand out as the most influential

factors [8,9]. Moreover, sociodemographic factors such as age, gender, income, car ownership, place of residence and presence of children also play a significant role in shaping transportation choices [10,11]. In addition, qualitative variables such as comfort, safety, reliability and convenience also have significant effects on transportation mode preferences.

When the studies on MM are examined, it is seen that the topic is approached from various perspectives. The main topics of these studies include the effects of people's intentions and preferences on MM [12–14], sociopsychological characteristics of MM use [15], user behavior in shared MM [16], and the impact of transportation behavior on MM propensity [17].

In addition to the relationship between personality traits and various behaviors [18–24], the relationship between personality traits and various transportation behaviors is also widely covered in the literature. In addition to sociodemographic factors, studies have been conducted to understand the effects of personality traits on driver behavior [9,25–28]. Likewise, studies have been conducted on the prediction of crash involvement [26,27], driving style and risky behaviors [29], public transportation [8], transportation risk perception [30], and the relationship of risk factors related to cycling with personality, accidents and behaviors [31,32].

However, studies on the effect of personality traits on transportation mode choice are limited [8]. In existing studies, for example, it has been shown that extroverted people tend to travel longer distances than introverts, and research using the 16PF psychometric test on transportation mode choice has been conducted [8]. One of the important issues affecting transportation mode choices is habits. As habits can affect personality, they can also affect travel behavior, and there are studies showing that habits shape transportation behavior [33–36]. In addition, it has been shown that intention shapes people's behavior in theories dealing with the decision-making process [37]. In this context, it is possible to talk about the relationship between habits and intention. For example, a study on the impact of driving habits on public transportation use showed that these habits have a negative impact on public transportation use [38].

The impact of financial status on MM choices is also an important area of research. Zhao and Li [39] reported that cycling in Beijing is associated with low-income groups and as a result, some users avoid cycling due to negative image and social status concerns.

Özdemir and Copur [40] found that income and subjective well-being significantly enhance financial well-being and financial well-being plays a mediating role in this relationship. In light of these findings, the relationship between MM use and social perception and status makes it necessary to investigate the role of personality traits in this preference. The fact that there is no study in the literature examining the relationship between personality traits, financial well-being, and MM preferences and use reveals the unique value of this research topic.

One of the most important theories that try to explain human behavior is the theory of reasoned action [41], followed by the theory of planned behavior [42] and finally the technology acceptance model [43] with the addition of a technological structure to these theories.

In this study, the intention to use MM and actual use of MM, which play the roles of dependent and mediating variables, are adapted based on the variables of intention to use and actual use of a technology within the scope of the technology acceptance model. When the theoretical foundations of the technology acceptance model are examined, in addition to technical factors such as ease of use, utility, financial cost, and reliability of a technology in the technology acceptance model, this study presents a different composition based on the fact that subjective norms in both planned behavior and justified action theories are detailed differently in different studies.

This study presents a unique model that has not yet been used in the literature by utilizing the theoretical background of existing models and theories. While this model addresses personality traits within the scope of subjective norms, it includes financial anxiety and financial security in the perceived benefit and financial cost dimensions. Thus, it brings a holistic approach to the measurement of financial well-being and adds a different dimension to the model. When previous studies are examined, it is revealed that financial anxiety is the cause of many erroneous decisions and has negative effects on people's lives, but no study has been found to examine how financial anxiety is reflected in the intention to use MM. In addition, there are no studies examining how the increase in financial security of individuals who want to secure themselves financially reflects on their intention to use MM. The study also extends the literature by examining whether personality traits have a predictive effect on individuals' financial anxiety and feelings of financial security. In the SEM model test as a whole, demographic variables, vehicle ownership, land conditions, and weather conditions are included in the model as control variables.

As a developing country, Turkey is experiencing rapid urban growth. The changes in the Bursa metropolis, one of the five largest cities in the country, are worth examining. Bursa's many alternative transportation options include urban transportation infrastructure, municipal buses (BURULAŞ), metro/light rail system (BURSARAY), minibuses, and shared scooters and e-bikes. Despite all these advances, sustainable micromobility systems face great opportunities and obstacles, as they are still highly dependent on motor vehicles and have a structure that is prone to major traffic problems. However, since integration between public transportation and micromobility has not yet been fully achieved, it contains both opportunities and threats for the development of urban mobility infrastructure.

The main purpose of this study is to expand the predictive variables of the relevant model by creating a more comprehensive TAM by focusing on the main elements of behavioral intention and actual behavior in the TAM/TPB/RAA models. This study aims to re-evaluate technology acceptance by combining TAM and TPB models with financial anxiety and financial security variables. In addition, the subjective norms expressed in RAA are integrated with internal psychological motivations such as personal competence, neuroticism, and extraversion. In addition, the comprehensive integrated model aims to show the role of terrain conditions and weather conditions, which have an important place in micromobility, as well as sociodemographic variables in both personality traits, financial well-being, and mobility use intention. In this direction, the aim is that the SEM model created is validated by the obtained data and will make significant contributions to the field in terms of theoretical and practical implications. However, models that estimate the drivers of mobility aim to provide policymakers and nations with important practical implications in the field of sustainable development and green transformation by combining psychological and economic factors with sociodemographic components (such as fair governance, gender equality, and economic prosperity) in the emerging market. The literature review presents the structure of the studies conducted in the field, and the results are shown in Table 1.

Table 1. Literature review.

Authors and Year	Name of Study	Variables Used	Model Used	Results
Samadzad et al. [44]	What are the factors affecting the adoption and use of electric scooter sharing systems from the end user's perspective?	Perceived ease of use (PEOU), social influence (SI), trust	Extended technology acceptance model (TAM), partial least squares structural equation model	Perceived usefulness, trust, subjective norms, personal innovativeness, compatibility, attitude, perceived ease of use, privacy concerns, ecological awareness and perceived enjoyment were identified as the most important factors affecting the intention to use electric scooter sharing systems.
Tuli et al. [45]	Factors influencing the usage of shared E-scooters in Chicago	Weather data, weekday/weekend, gasoline prices, sociodemographic factors, built environment, neighborhood characteristics, public transport	Random-Effects Negative Binomial (RENB) model	COVID-19, weather conditions and built environment features have significant impacts on e-scooter demand.
Kopplin, C.S., et al. [46]	Consumer acceptance of shared e-scooters for urban and short-distance mobility	Perceived risk, fun during use, e-scooters as an alternative for public transport	Unified Theory of Acceptance and Use of Technology (UTAUT2)	E-scooters are mostly seen as fun objects and not considered a public transport alternative.
(Bieliński et al. [47]	Electric bike-sharing services mode substitution for driving, public transit, and cycling	E-bike shared system (MEVO)	Double hurdle estimation approach	Electric bike trips have not replaced car trips. Shared e-bikes are mostly used by residents as a first/last-mile transportation option to or from public transport stops, rather than as an alternative to public transport.
Nematchoua, M., et al. [48]	Evaluation of the potential of classic and electric bicycle commuting as an impetus for the transition towards environmentally sustainable cities	Distance, transport usage mode: bikes or e-bikes	Net Promoter Score (NPS), survey of 1479 people	The biggest obstacle for regular and electric bicycle users is the need for a safe bicycle infrastructure.

Table 1. *Cont.*

Authors and Year	Name of Study	Variables Used	Model Used	Results
Oeschger, G., et al. [49]	Micromobility and public transport integration: the current state of knowledge	Impacts on public transport, use frequency, age, income	Literature review and comparison analysis	There is a need for research about the impact of micromobility on public transport. The integration of micromobility into public transport should be improved.
Patel and Patel [50]	A stakeholders perspective on improving barriers in implementation of public bicycle sharing system (PBSS)	Poor infrastructure, low user awareness, safety concerns, financial difficulties	Fuzzy Analytical Hierarchical Process (FAHP)	Poor bike paths, safety concerns, financial barriers, low awareness and low public participation hinder the success of public bike-sharing systems.
Machavarapu, P.K., et al. [51]	Factors influencing bike share intentions of users in Indian cities: a structural equation modeling approach	Attitude, subjective norms, behavioral control, habits, technology acceptance model, policy support, external factors, Bicycling Conditions	Structural Equation Modeling (SEM)	Perceived ease of use, behavioral attitudes, subjective norms, and habits positively affected the intention to use bike sharing. Perceived bicycling conditions and external factors negatively affected bike share usage intentions.
Bretones and Marquet [15]	Sociopsychological factors associated with the adoption and usage of electric micromobility. A literature review	Functional and non-functional values (money, time, emotional, social, epistemic values); sociopsychological factors, e-micromobility vehicle types	PRISMA systematic literature review approach	Non-functional factors, such as environmental concerns, innovativeness, and belonging, are even more influential for individuals than traditional functional factors. Users perceive these services as socially beneficial.
Kalašová and Čulík [17]	The Micromobility Tendencies of People and Their Transport Behavior	Average number of vehicles in households, the types of vehicles, usage patterns, education, transport behavior	Basic statistical methods, correlation analysis	People with higher education levels have more positive views on transportation behavior. Bicycles are the most preferred shared transportation vehicles.

Table 1. *Cont.*

Authors and Year	Name of Study	Variables Used	Model Used	Results
Nigro et al. [52]	A mixed behavioural and data-driven method for assessing the shift potential to electric micromobility: evidence from Rome	Socioeconomic factors, along with transport features (travel time, access time, monetary costs, and perceived safety levels)	Random utility model (RUM) and FCD	The potential for increased e-bike use is affected by factors such as age and infrastructure safety. Elderly users are more likely to prefer e-bikes.
Kang et al. [53]	Investigating Factors Influencing the Selection of Micro-Mobility in a Tourist City: Focus on Jeju City	Gender, age, and region, usage time of micromobility, trip length, selected mobility, temperature	Multinomial logistic regression	There are significant differences in mode selection according to gender, age, and region. Environmental variables such as usage time and temperature also significantly affect users' preferences.
Aguilera-García et al., [54]	Exploring the adoption of moped scooter-sharing systems in Spanish urban areas	Sociodemographic information, mobility and travel-related variables, attitudes and preferences	Generalized ordered logit (gologit)	It is stated that sociodemographic and travel-related variables play an important role in moped adoption, while personal opinions and attitudes are generally not found to be statistically significant.
Xie ve Liao [55]	Incorporating personality traits for the study of user acceptance of electric micromobility-sharing services	Big Five Personality Traits, UTAUT factors (social influence, performance expectancy, and hedonic motivation), sociodemographic factors	Structural Equation Modeling (SEM)	Social influence, performance expectancy, and hedonic motivation positively affect intention to use micromobility-sharing services. Openness and extraversion are also personality traits that affect intention to use. The effects of other personality traits and sociodemographic factors are weaker or indirect.

Table 1. *Cont.*

Authors and Year	Name of Study	Variables Used	Model Used	Results
Younes et al. [5]	Comparing the Temporal Determinants of Dockless Scooter-Share and Station-Based Bike-Share in Washington, D.C	Environmental and economic variables, day of week, and time of day.	Negative binomial regression model	Time of day, weather, gasoline prices, and local festivals influence the use of e-scooters.
Rejali et al. [56]	Assessing a priori acceptance of shared dockless e-scooters in Iran	Intention, perceived usefulness, ease of use, attitude, environmental awareness, subjective norms, hedonic motivation.	Technology acceptance model-based Structural Equation Modeling (SEM)	Subjective norms were found to be the strongest predictors of intentions to use e-scooters, and environmental awareness was also a significant predictor.
Reck et al. [57]	Explaining shared micromobility usage, competition and mode choice by modelling empirical data from Zurich, Switzerland	Mode choice, competition, shared micromobility usage, demographics	Structural Equation Modeling	Shared micromobility usage in the studied area is less frequent for car trips than for walking trips.
Mitra and Hess [58]	Who Are the Potential Users of Shared E-Scooters? An Examination of Socio-demographic Factors and User Attitudes	Sociodemographics and economic factors, use intention, environmental awareness	Weighted logistic regression model	E-scooters are mainly used as a substitute for walking and public transport and are not widely used for commuting.
McKenzie [59]	Spatiotemporal comparative analysis of scooter-share and bike-share usage patterns in Washington, D.C.	Spatiotemporal patterns, differences between shared bikes and shared e-scooters	Descriptive analysis	E-scooters were more frequently used for leisure, recreation, and tourism than for commuting.
Gkartzonikas & Dimitriou [60]	Shared Micro-Mobility Services for University Communities: A Multivariate Ordered Probit Approach	Sociodemographic factors, mobility habits, awareness, attitudes, perceptions towards micromobility	Multivariate ordered probit model	Young and highly educated people are more open to shared micromobility, and attitudes, behavioral control, social norms and environmental protection factors influence this tendency.

Table 1. *Cont.*

Authors and Year	Name of Study	Variables Used	Model Used	Results
Huang [14]	User Behavioral Intentions toward a Scooter-Sharing Service: An Empirical Study	Attitudes, user experience (UX), technology acceptance, social influence, environmental concerns	Hierarchical multiple regression analysis	Habits, social influence, and environmental protection positively influence intentions, while performance expectancy and effort expectancy negatively influence intentions. Attitude and UX have no direct effects.
Chahine et al. [61]	Navigating post-pandemic urban mobility: Unveiling intentions for shared micro-mobility usage across three U.S. cities	Intentions, perceived behavioral control, social norms, safety concerns, attitudes towards the environment and technology	Multi-Group Structural Equation Modeling (MG-SEM)	Attitudes, behavioral control, social norms, and COVID-19 perceptions were found to influence the shared micromobility intention.
Nikiforiadis et al. [62]	Analysis of attitudes and engagement of shared e-scooter users	Attitudes, individual perceptions, safety perception, social norms	Descriptive statistics, t-tests	Safety concerns and perception are the most important factors that drive shared e-scooter usage. Social norms, user experience, and perceptions were also revealed as related factors.
Lee, Baek, & Chung [63]	Factors affecting heterogeneity in willingness to use e-scooter sharing services	User attributes (age, income, education, gender), motivation, attributes of intention to use	Latent class ordered logit model	Young people, high-income people, and those dissatisfied with public transportation are more prone to use shared e-scooter services, and shared e-scooters are mostly used for recreational purposes.
Ecarius and Cheng Lu [12]	Adoption intentions for micro-mobility—Insights from electric scooter sharing in Taiwan	Theory of planned behavior, awareness–knowledge, demographic variables, perceived compatibility, environmental values	Factor analysis and structural equation model	Habits, social influence, and environmental protection positively affect intentions to use e-scooters; performance expectancy and effort expectancy negatively affect intentions to use e-scooters.

Table 1. *Cont.*

Authors and Year	Name of Study	Variables Used	Model Used	Results
Roig-Costa et al. [64]	Understanding multimodal mobility patterns of micromobility users in urban environments: insights from Barcelona	Weekly usage frequency, sociodemographics, workplace	Cluster analysis and multinomial logistic regression	Shared micromobility users rely on a single mode, and private micromobility users are more prone to unimodal usage, while shared micromobility options encourage multimodal behaviors.
Fuchs et al. [65]	Who uses shared microbility? Exploring users' social characteristics beyond sociodemographics	Sociodemographic factors, psychographic factors, attitudinal factors, behavioral characteristics	Naive Bayes model	Bike sharing is mainly used by highly educated, employed males with high incomes who value wealth and adventure. Similar factors were found in shared e-scooter users.
Oeschger et al. [66]	User characteristics and preferences for micromobility use in first- and last-mile journeys in Dublin, Ireland	Attitudes, behavioral control, social norms, micro-mobility modes, travel behavior, sociodemographic,	Mixed logit model	Walking is the most preferred option. Respondents with a strong walking preference were less likely to use private or shared micromobility for first- and last-mile trips.
Çallı & Çallı [67]	Value-centric analysis of user adoption for sustainable urban micro-mobility transportation through shared e-scooter services	Customer value perceptions (price, distance, ease of use, hedonic value, utility value), demographic characteristics	Random Forest, gradient boosting, logistic regression, k-NN, Naive Bayes, Support Vector Machine	It has been revealed that entertainment, practicality, and price sensitivity are the most important factors affecting user satisfaction, and technical issues, location, and parking problems also negatively affect the user experience.

Table 1. *Cont.*

Authors and Year	Name of Study	Variables Used	Model Used	Results
Hermawan and Le [68]	Examining Factors Influencing the Use of Shared Electric Scooters	E-scooters' speed and lane use, previous experience of conflicts with personal mobility devices, attitudes	Logit models	People would prefer e-scooters to be faster and off the sidewalks. Negative experiences significantly decrease intentions to use e-scooters.
Hosseinzadeh et al. [69]	Factors influencing shared micromobility services: An analysis of e-scooters and bikeshare	Weather, day of the week, holidays, and special events	Negative binomial generalized additive models (NBGAMs)	The trend is increasing e-scooter use on weekends and during special events, and decreasing use during rainy weather, where weather, days of the week, and special events affect both types of micromobility.

In addition to the detailed literature on micromobility use in Table 1, the conceptual model developed has a theoretical structure based on the integration of the technology acceptance model (TAM) [43], theory of planned behavior (TPB) [37], theory of reasoned action (TAA) [41], and the Big Five Personality Traits framework [70]. It is also enriched with modern understandings by conceptualizing financial well-being (financial anxiety and financial security) and sociodemographic contextual variables.

According to the TAM, RAA, and TPB, behavioral intention is shaped by perceived behavioral control, subjective norms, and individual usefulness or feasibility evaluations. In the research model, financial anxiety and financial security are conceptualized as psychological–financial indicators that are used as surrogates for perceived behavioral control and are thought to affect the intention to use micromobility.

Personality traits, particularly neuroticism, extraversion, and personal competence, have been implicated as dispositional antecedents that indirectly affect usage behavior through both financial well-being and intention [71,72]. Furthermore, sociodemographic variables such as age, gender, education, income level, car ownership, and employment status are thought to be important factors that moderate the distribution and expression of personality traits, financial attitudes [73], and mobility behaviors [74]. For example, age and income have been shown to moderate the relationship between psychological traits and technology adoption [75]. These theoretical intersections explain the rationale for including mediation pathways in the expanded model, which aims to capture how individual orientations and contextual conditions jointly shape behavioral outcomes in the micromobility domain.

Therefore, the expanded conceptual model goes beyond the traditional TAM/TPB logic by incorporating personality-based and financial-focused internal drivers into the model and using foreground demographic structure as a predictor, making the model compatible with behavioral mobility studies in rapidly urbanizing, demographically diverse countries such as Turkey.

In line with the literature and research objectives, this study proposes an integrated model based on the extended inferences of behavioral and technology acceptance theories (TAM), namely the theory of reasoned action (TRA), the theory of planned behavior (TPB), and the technology acceptance model (TAM). Traditionally, the TAM has been perceived as primarily focusing on perceived ease of use and perceived usefulness as the main drivers of behavioral intention. However, this study offers a more comprehensive framework rather than directly measuring these variables. It accepts the main assumption of the TAM that behavioral intention and actual usage are the strongest determinants and expands the scope by including financial and psychological concepts as alternative precursors of intention in the model. In this context, the model aligns with the TPB's perceived behavioral control variable, incorporating financial anxiety and financial security as the main concepts shaping individuals' perceived control over their behavior. Financial anxiety refers to a psychological constraint and a sense of individual uncertainty, while financial security reflects confidence in how the relevant behavior can be implemented and sustained. Furthermore, these concepts not only represent economic conditions but also serve as psychological determinants of behavioral feasibility.

Instead of classical subjective norms, we include personality traits, particularly neuroticism and self-efficacy, as internalized determinants of intention. This substitution replaces extraversion and social pressures with personality traits as the primary determinants of intention.

Instead of classical subjective norms, we include personality traits, particularly neuroticism and self-efficacy, as internalized determinants of intention. This substitution reflects a shift from external social pressures to internal tendencies. It is argued that neuroticism

increases financial anxiety, while self-efficacy positively contributes to perceived control and reduces financial distress.

As a result, the model is consistent with expanded TAM frameworks that emphasize the flexibility of the TAM in incorporating psychological, economic, and social factors beyond its original scope. The integrated framework preserves the behavioral pathway from intention to usage while enriching its antecedents with new concepts from financial well-being and personality psychology.

A conceptual schema is presented below to illustrate how each variable is connected to its theoretical origins (Table 2). Variables derived from the TAM, TPB, and psychological extensions are visually distinguished to clarify the structure and logic of the proposed model. Additionally, weather conditions, terrain conditions, and sociodemographic variables are included as control variables in the model to further expand its scope.

Table 2. Theoretical mapping of constructs in the integrated model.

Construct	Theoretical Foundation	Role in the Model
Behavioral Intention	TAM/TPB (Shared Component)	Predicts actual use of micromobility
Actual Usage	TAM/TPB	Behavioral outcome; dependent variable
Financial Anxiety	TPB—Perceived Behavioral Control (Negative)	Acts as a psychological barrier; reduces perceived control and intention
Financial Security	TPB—Perceived Behavioral Control (Positive)	Enhances perceived control and increases behavioral intention
Self-Efficacy	TPB—Perceived Behavioral Control/Psychology	Contributes to perceived control; reduces anxiety; positively affects intention
Neuroticism	Personality Psychology	Increases financial anxiety; indirectly weakens behavioral control and intention
Personality Traits	Substitutes Subjective Norms (RAA/TPB)	Internalized predispositions affecting financial and psychological perceptions
Micromobility Context	Extended TAM	Defines the behavioral domain of technology usage; context for intention and behavior
Demographics and Environment (e.g., Weather, Terrain)	Control Variables	Included to isolate the effects of psychological and financial predictors

2. Materials and Methods

2.1. Data Collection

2.1.1. Sampling Method

Bursa, one of Turkey's four major cities with a high socioeconomic level and favorable terrain and infrastructure for micromobility, is selected as the research unit. Both docked shared bicycle and e-bike systems with stations and shared electric scooter systems without stations are widely used in Bursa. In addition, the presence of bicycle lanes and the adoption of future-oriented non-motorized transport policies in transportation planning (Circular on Green Deal Action Plan) make the city worthy of study in terms of MM. In addition, the increasing rate of MM use (Oeschger et al., 2020 [49]) is of great importance in terms of current and future potential. This study aims to fill an important theoretical and practical gap in the national and international arena by contributing to important conclusions in Turkey.

When it is impossible to estimate the total population in the study or when it is not defined (as is common in online survey studies), the sample size is usually evaluated by considering the general sampling theory rather than a specific population frame [76,77]. The formula that provides the highest variability (at the 5% significance level) is used for a

conservative estimate, which is usually a preferred approach in estimating proportions or handling categorical data [78].

$$N = \frac{(Z)^2 \cdot p \cdot (1-p)}{(e)^2} \quad (1)$$

N = minimum required sample size.
Z = Z-score corresponding to the desired confidence level (e.g., 1.96 for 95%).
p = estimated population proportion (commonly set to 0.5 to maximize variance).
e = margin of error (e.g., 0.05 for ±5%).
For this study, the values are Z = 1.96, p = 0.5, and e = 0.05.
Substituting these into the formula yields

$$N = \frac{(1.96)^2 \cdot 0.5 \cdot (1-0.5)}{(0.05)^2} = \frac{3.8416 * 0.25}{0.0025} = \frac{0.9604}{0.0025} = 384.16$$

Convenience sampling has advantages in terms of time, cost, and access. As a general opinion, a sample of 384 or more is considered sufficient to represent a population [78]. With the online survey method, 750 participants were reached, and the study continued with 597 valid data points with voluntary participation. This number is considered sufficient in terms of generalizability and model tests. According to another approach, reaching 5–10 times as many participants as the total number of items in the scale is sufficient for scale validity and reliability [79]. For the 27 5-point Likert-type statements in the research, 270 samples are considered sufficient, and the sample of 597 people meets the criteria. In addition, the participants answered the questions completely, and there was no missing or incomplete data.

2.1.2. Sample Specifications

The Marmara region is one of the areas where MM use is most widespread. The MM users participating in the study are randomly selected from Bursa, one of the five largest, most populous cities in Turkey with the most favorable climate and terrain. With a population of approximately 2.5 million people, Bursa is receiving migrants day by day due to its many advantages, and it is one of the leading smart city projects in Turkey. Figure 1 shows the distribution of the demographic characteristics of the respondents.

Survey data were collected between 15.10.2024 and 15.12.2024. In total, 64.7% of the participants were female and 35.3% were male; 151 of the participants were aged ≤18 years (25.3%) and 340 were aged 19–25 years (57.0%), and the remainder are aged ≥26 years (17.8%). Of the participants, 22.6% have a high school diploma or less, 44.9% have an associate's degree, and 32.5% have a bachelor's degree or higher. In the period when the minimum wage was TRY 17,002, 18.6% the participants earned minimum wage or less, 33% earned between 17,003 and 30,000, 20.1% earned between 30,001 and 45,000,000, 13.7% earned between 45,001 and 60,000, and the remaining 14.6% earned 60,001 or more. In addition, 29.6% of the participants were regular employees, while the remaining 70.4% were continuing their education. Among the participants, 60.5% did not own a car, and 39.5% owned one or more cars. The participants' reasons for using MM were as follows: 18.6% stated that it is economical, 10.6% stated that it is healthy, 16.4% stated that they prefer it because it is environmentally friendly, 31.3% stated that it is a hobby or entertainment, and the remaining 23.1% preferred other options.

The demographic characteristics of the sample included in this study include mostly young adult students between the ages of 19 and 25, with an associate degree, and a relatively limited income, and those who do not own a car. This model primarily consists

of individuals with lower mobility, limited financial means, and relatively high educational participation, which shape their micromobility intentions and behaviors. It can also be seen that they are shaped by a segment of the population with limited access to private transportation.

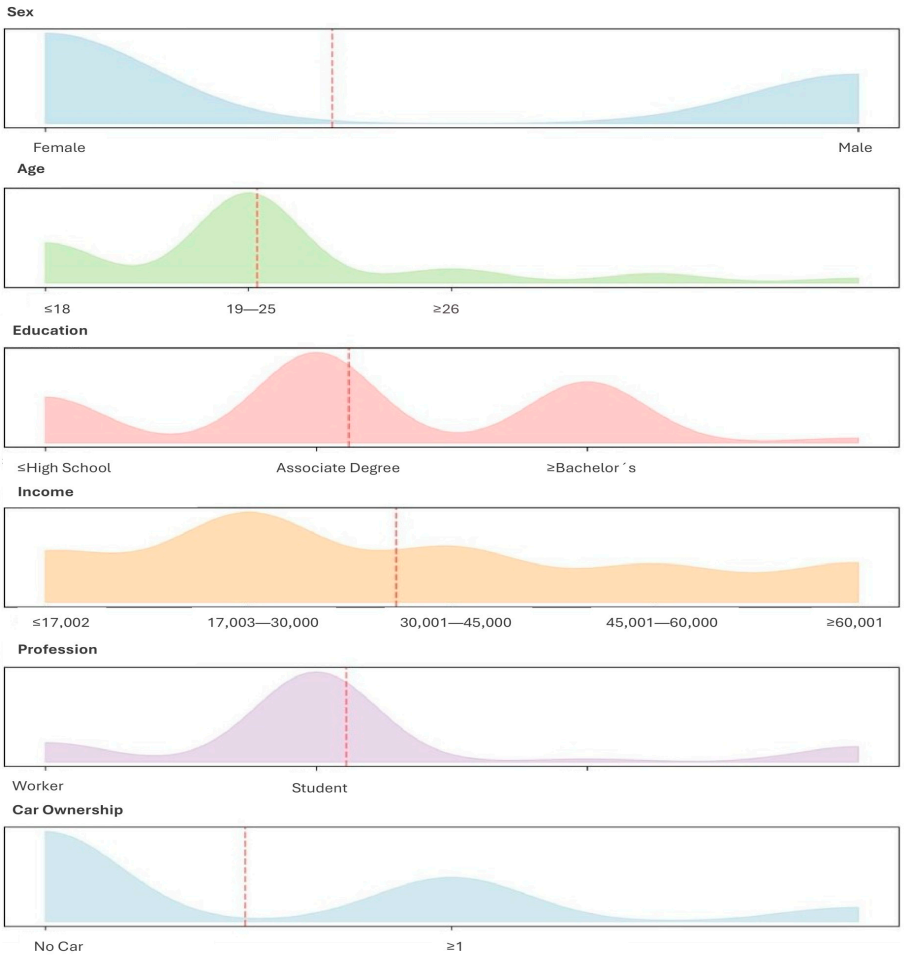


Figure 1. Demographic distribution of participants.

When the participants were asked if they had a bicycle/e-bike or e-scooter of their own, 58.3% said they did not, 32.7% owned a bicycle/e-bike, and 9% owned a scooter. On the other hand, when asked which vehicle they would prefer to go to work or school with if there was a separate and safe non-motorized vehicle area independent of the highway, 17.8% said they would prefer a bicycle, 10.6% said they would prefer an e-bike, 18.6% said they would prefer to walk, 11.7% said they would prefer an e-scooter, and 41.4% said they would prefer a motor vehicle. When asked what their transportation type would be if their home was close to their workplace, the participants' preferences for bicycles/e-bikes were 28.5% and 25% within the range of 0–3 km, 25.3% within the range of 3–6 km, 13.6% within the range of 6–9 km, and 7.7% for distances of 10 km and above. In response to the same question, 34.4% of the participants said they would never use them, 23.3% would use them within the range of 0–3 km, 21.4% within the range of 3–6 km, 14.9% within the range of 6–9 km, and 6% for distances of 10 km and above. When the question of proximity to the workplace is examined in terms of walking, 16.7% say they will never use it, 52% say they will walk within the range of 0–3 km, 15.9% say they will walk within the range of 3–6 km, 10.2% say they will walk within the range of 6–9 km, and 5.2% say they will walk 10 km and above.

In response to the question of their choice of transportation if there was a safe bicycle/e-bike/scooter path between their home and workplace separate from motor vehicle traffic, 27% say they will never use it, 27.3% say they will use it within the range of 0–3 km, 22.1% say they will use it within the range of 3–6 km, 15.2% say they will use it within the range of 6–9 km, and 8.3% say they will use it for 10 km and above. For the same question, 31.5% of the respondents stated that they would never prefer e-scooters, 23.3% stated that they would prefer them within 0–3 km, 21.9% within 3–6 km, 15.1% within 6–9 km, and 8.2% for 10 km and above. Finally, regarding whether they would cover this distance by walking, 20.9% stated that they would never prefer it, 49.1% stated that they would walk 0–3 km, 16.7% would walk 3–6 km, 8.7% would walk 6–9 km, and 4.5% stated that they would cover 10 km and above by walking.

2.2. Survey Measurements

The scales used in the study consist of the BFI personality scale, financial well-being scale, intention to use MM, and actual use, which are measured by five-point Likert-type questions. In addition, sociodemographic categorical questions and one five-point Likert-type question assessing the impact of terrain and weather on MM use are included in the questionnaire, which are considered to contribute significantly to this research. The BFI personality scale was adapted into Turkish by [80] with the help of expert academics and translators by reducing the 44 items to 10 statements. This version of the scale consisting of 10 statements is evaluated by exploratory factor analysis and confirmatory factor analysis, and is used in this study as a new version that loads on three factors. The financial well-being scale is a construct developed by Bureau [81], consisting of 10 items and two sub-factors. This scale, which generally defines an increase in financial well-being and a decrease in financial anxiety [82], was translated into Turkish and applied to the target group. All items in the scale are arranged in accordance with the format in the field, and the validity and reliability of the statements are ensured through exploratory and confirmatory factor analyses conducted by taking cultural differences into account. The intention to use MM is measured with three questions developed by the authors, and the actual use of micromobility is assessed with two statements prepared by the authors. In addition, the favorability of terrain and weather conditions, which are thought to affect the intention to use MM, are measured with a five-point Likert-type question.

The sociodemographic questions used as variables include information on gender, age, income level, education level, employment status, and vehicle ownership.

The internal consistency coefficient of the new construct consisting of two items for conscientiousness (BFI1, BFI3) is $\alpha = 0.50$, the internal consistency coefficient for neuroticism consisting of three items (BFI5, BFI7, BFI9) is $\alpha = 0.50$, and finally, the internal consistency coefficient for the variable consisting of five statements (BFI2, BFI4, BFI6, BFI8, BFI10), which is expressed as personal competence and in which openness, agreeableness, and extraversion are loaded together on a single factor, is $\alpha = 0.798$. The structure of the BFI personality factor measured with 10 items is approved in German and English; exploratory factor analysis is conducted to ensure the validity and reliability values after it is adapted to Turkish culture, and since the new structure loads on three factors, appropriate naming is made. Thus, the other analyses are continued on the new structure consisting of three factors. In the personality variable, the BFI4 and BFI9 items are reversed in addition to the author's reverse coding in the original study.

The financial well-being scale is adapted to Turkish with a structure consisting of 10 statements and then subjected to exploratory factor analysis and internal consistency analysis to ensure validity and reliability. The first factor of financial well-being, which is loaded on two sub-factors in line with the structure in the literature, is expressed as

financial security (FS) and consists of the items FWB1, FWB2, FWB4, and FWB8; the internal consistency coefficient of this variable is α = 0.766, which confirms its very good value. The second factor (FA), which expresses a negative financial value that increases financial worry and anxiety, consists of the items FWB3, FWB5, FWB6, FWB7, FWB9, and FWB10; the internal consistency coefficient of this variable is α= 0.767, which is quite high. In the financial well-being scale, the items FWB1, FWB2, FWB4, and FWB8 were reverse-coded due to negative factor loadings.

The internal consistency of the variables of intention to use MM and actual use, which are created by the researchers in line with the theory of planned behavior, is also ensured. The intention to use MM consists of MMIU1, MMIU2, and MMIU3, and the internal consistency of the variable is quite high at α = 0.894. Actual MM use consists of MMWU and MMLC, and the internal consistency coefficient is α = 0.804. The internal consistency coefficient for both variables is highly reliable. The mean scores for all variables evaluated are calculated. Descriptive statistics of the variables are presented in Table 3.

Table 3. Descriptive statistics.

Variables	Min.	Max.	Mean	Std. Dev.	Skewness	Kurtosis
Neuroticism	1	5	3.3752	0.84781	−0.129	−0.468
Personal competence (PC)	1	5	3.7010	0.89591	−0.432	−0.193
Extraversion	1	5	3.3588	0.94150	−0.852	0.124
Financial anxiety (FA)	1	5	2.6762	0.83210	0.181	−0.160
Financial security (FS)	1	5	3.0691	0.92648	−0.199	−0.218
MMUG	1	5	1.8660	1.04294	1.105	0.284
MMIUG	1	5	3.0235	0.99092	−0.111	−0.343
MMWU	1	5	3.64	1.131	−0.722	−0.041
MMLC	1	5	3.70	1.107	−0.856	0.187

MMUG: use of micromobility; MMIUG: intention to use micromobility; MMWU: weather conditions; MMLC: land conditions.

As can be seen from Table 3, the skewness and kurtosis values of the variables are within the limits specified in the literature [83,84], so it is understood that the normality assumption is met.

2.3. Methods and Procedures

Structural Equation Modeling (SEM) is used to test the proposed model (Figure 2). The main focus of the model is the effect of each sub-factor of personality traits on the intention to use MM, the effect of the two dimensions of financial well-being separately on the intention to use MM, and the effect of the intention to use MM on actual MM use. Since weather and terrain conditions may also have an impact on MM use, these variables are included in the model as control variables. Demographic characteristics are also included in the model as control variables. Finally, the hypothesis that the intention to use MM plays a mediating role in actual use is tested. In this research, the SEM model is tested with the help of the AMOS 29 program.

In this study, the intention to use micromobility and its actual use are conceptualized by indicating the use of both a primary and a complementary mode of travel based on the purpose of travel and the duration of travel. While the use of a scooter to go to and from work is the primary use, using vehicles such as scooters as a support to reach a metro station or for the remaining journey after using a motor vehicle indicates complementary use. This shared dual role, the frequent use of shared scooters and bicycles to connect to the BURSARAY metro system, is of significant importance in urban centers such as Bursa. The survey design aims to interpret participants' MM use in both ways by reflecting an inclusive definition by asking demographic questions about which micromobility vehicles

they would prefer according to the distance to the workplace, and also addressing this dual role. This is in line with the current mobility literature that emphasizes multimodal integration as a path to sustainable and flexible urban transportation [61,64].

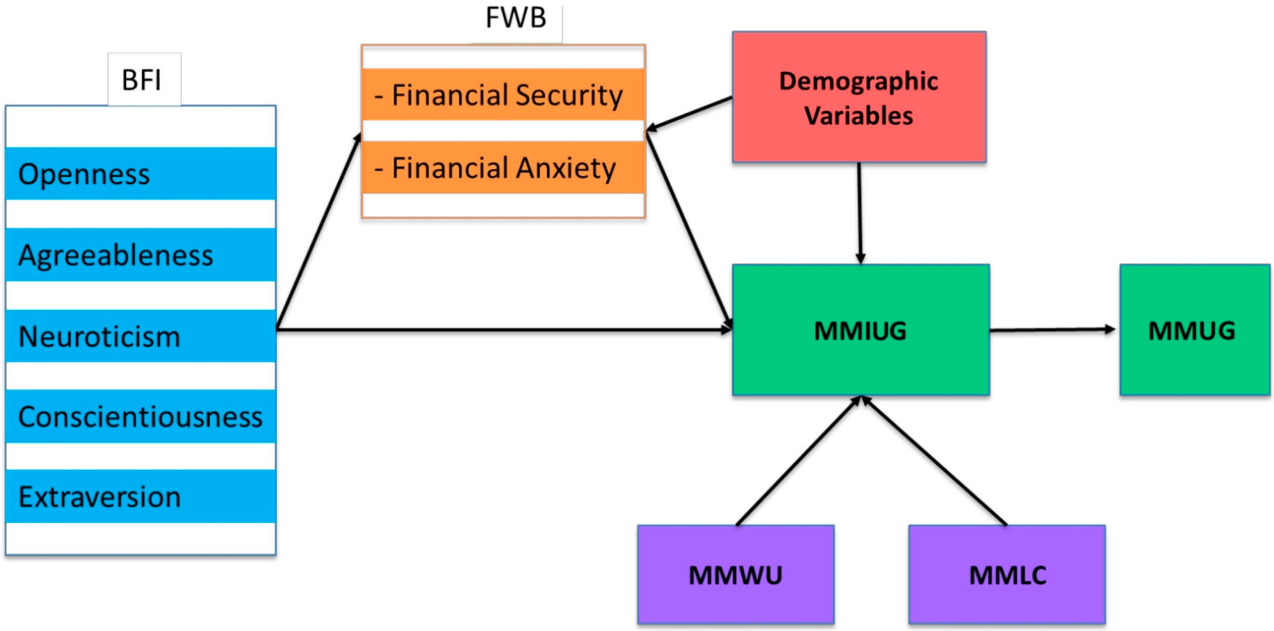


Figure 2. Research model. MMUG: use of micromobility; MMIUG: intention to use micromobility; MMWU: weather conditions; MMLC: land conditions.

Since demographic variables are considered to have an effect on the dependent variable, these variables are added to the model as dummy variables. In this context, gender is created as female (0) and male (1). The age variable is coded as "1" for the 19–25 age range and "2" for the ≥26 age range, keeping those in the ≤18 age category as "0". In terms of education level, high school graduates and below are coded as "0", those with an associate degree as "1", and those with a bachelor's degree and above as "2". In terms of income level, keeping the minimum wage constant, those with TRY ≤ 17,000 are coded as "0", those with TRY 17,003–30,000 are coded as "1", and those with TRY ≥ 30.001 as "2". In terms of occupation, students are categorized as "0" and those with regular income as "1". Finally, in terms of car ownership, those with no car are categorized as "0" and those with one or more cars as "1". All categorical variables are recoded as dummy variables using SPSS 29, and the new variables are included in the SEM model with appropriate nomenclature.

Before proceeding to the SEM model, exploratory factor analysis is first conducted to ensure the validity and reliability of the variables, and the resulting structure is confirmed with the measurement model, which is one of the confirmatory factor analyses. AVE and CR values are calculated to test the convergent and discriminant validity of the structure created in the measurement model.

The validity of the model is measured by goodness-of-fit statistics: relative and normed X2 test, root mean square error of approximation (RMSEA), comparative fit index (CFI), standardized root mean residuals (SRMRs), and GFI, which measures the covariance matrix in the sample.

Personality traits expressed by the Big Five Inventory (BFI) are also incorporated into the model. Personality traits are important psychological characteristics that influence various financial decisions in individuals' lives. The five-factor model of personality is characterized by the following traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness. It determines measurable characteristics in the dimensions

of low balance (neuroticism) and openness [85]. Research has shown that responsibility and emotional stability decrease financial anxiety and increase financial confidence [86,87]. Furthermore, Yu et al. [88] examined psychological well-being among students based on the five major personality traits and found that responsibility, neuroticism, and openness can directly affect students' psychological well-being without the mediation of social support, while extraversion affects psychological well-being both directly and indirectly. In this context, the following hypotheses have been developed:

H1. *Personality traits have a significant effect on financial well-being.*

Xie and Liao [55] examined the effect of personality traits on micromobility (MM) and showed that openness and extraversion have a direct effect on MM use, while other personality traits have an indirect effect on MM use intention. In this context, hypothesis H2 was developed.

H2. *Personality traits have a significant effect on intention to use MM.*

Eccarius and Lu [12] stated that attitude, perception of compatibility, and social norms have an impact on intention. Thus, they stated that these factors can directly or indirectly affect a person's intention to use MM. In addition, the theory of planned behavior [37,41] and the technology acceptance model [43] also state that the intention to use a new technology will affect the actual use. Therefore, hypothesis H3 was developed in this study.

H3. *Intention to use MM increases actual MM use.*

It is seen in the literature that environmental factors such as weather conditions are also a factor in MM use [89]. Tuli et al. [45] and Hossainzadeh et al. [69] stated that weather conditions have a non-negligible impact on MM use. Hypothesis H4 is formed accordingly.

H4. *Weather conditions have a significant effect on intention to use MM.*

Teixeira et al. [89] reported that electric bicycles reduce the negative impact of terrain and hot weather. Therefore, H5 is formed with the hypothesis that terrain conditions also have an effect on the intention to use MM.

H5. *Land conditions affect intention to use MM.*

Karami et al. [90] evaluated the effect of personality traits on the acceptance of shared electric scooter use, and Xie and Liao [55] evaluated the effect of personality traits on user acceptance. In light of these studies, hypothesis H7 was found worth examining.

H6. *Personality traits have an indirect effect on actual MM use through intention to use MM.*

There are studies showing that the financial situation of individuals shapes many of their behaviors. As an increase in financial well-being and a decrease in financial anxiety will increase the financial well-being of individuals, their transportation preferences will also be affected by this situation. According to the theory of planned behavior, it is possible for perceived technical situations to be reflected in actual behavior through the intention to perform the behavior. In this context, H7 is developed:

H7. *Financial well-being has an indirect effect on actual MM use through intention to use MM.*

Teixeira et al. [89] stated that electric bicycles reduce the negative effects of terrain and hot weather. Similarly, there are studies showing that intention affects actual behavior, and intention has a mediating role [91,92]. Thus, H8 and H9 were proposed:

H8. *Land conditions have a significant indirect effect on actual MM use through intention to use MM.*

H9. *Weather conditions have a significant indirect effect on actual MM use through intention to use MM.*

3. Findings

3.1. Validity and Reliability Results of the Scales

The results of the exploratory factor analysis of the personality and financial well-being variables are presented in Table 4. The structure obtained from the principal component analysis decomposes into three factors for personality and two factors for financial well-being. Factor loadings are considered at 0.45 and above, and the explained variance of the scales, Kaiser–Mayer Scale values, and eigenvalues are within acceptable limits.

Table 4. EFA results.

Factor	Variables	Mean	Factor Loadings	Explained Variance	Eigenvalue	KMO	Cronbach's Alpha
Financial Anxiety	I worry that the money I have saved or will save will not be enough (FW6).	2.95	0.717	35,958	3.596	0.839	0.767
	My financial situation controls my life (FW10).	2.97	0.710				
	Due to my financial situation, I feel that I will never be able to have the things I want in life (FW3).	2.31	0.660				
	I just get by financially (FW5)	3.02	0.640				
	Giving a gift for a wedding. birthday or other occasion would strain my finances that month (FW7).	2.35	0.640				
	I am behind in my financial affairs (FW9).	2.46	0.637				
Financial Security	I am securing my financial future (FW2).	3.16	0.819	16,199	1.620	0.839	0.766
	I can cope with an unexpected large expense (FW1).	3.27	0.809				
	I am able to enjoy life thanks to the way I manage my money (FW4).	2.82	0.756				
	I have money left at the end of the month (FW8).	3.03	0.616				
Personal Competence	I take pride in my work (BFI8).	3.87	0.816	33,069	3.307	0.771	0.798
	I am an extrovert (BFI6).	3.32	0.762				
	I have an active imagination (BFI10).	3.60	0.749				
	I am relaxed and can cope with stress (BFI4).	3.03	0.675				
	I usually trust (BFI2).	2.97	0.647				

Table 4. *Cont.*

Factor	Variables	Mean	Factor Loadings	Explained Variance	Eigenvalue	KMO	Cronbach's Alpha
Neuroticism	I tend to find fault in others (BFI7).	3.71	0.836	15,603	1.560	0.771	0.50
	I get angry easily (BFI9).	2.86	0.593				
Extraversion	I am shy (BFI1).	3.69	0.851	10,456	1.046	0.771	0.50
	I am prone to laziness (BFI3).	3.71	0.627				
Intention to use micromobility	I plan to continue using micromobility (MMIU3).	3.03	0.894	62,504	3.125	0.768	0.894
	I will always try to use micromobility in my daily life (MMIU2).	2.86	0.878				
	I plan to continue using micromobility in the future (MMIU1).	3.19	0.874				
Use of micromobility	Your weekly usage frequency of micromobility (AWMM).	1.75	0.923	20,856	1.043	0.768	0.804
	Your weekly average micro-mobility usage distance (MMUF).	1.98	0.845				

When Table 4 is considered, the distribution of the factors changes due to the adaptation of the 10-item version of the five-factor personality scale into Turkish and its integration into Turkish culture.

Since the Big Five Inventory (BFI) personality scale and the financial well-being scale in the study are re-evaluated by Turkish participants as a result of the adaptation of the scales previously used in the literature into Turkish, the statements consisting of 10 questions of the five-factor personality scale are subjected to a principal component analysis and confirmatory factor analysis again, and the five-factor structure of the variables emerges as three factors. In this way, the scale, which was developed and approved in German and English, is adapted to Turkish, and the new factors are renamed by considering the literature and the factor strengths of the items. The personality scale is renamed as personal competence, neuroticism, and extraversion. The model and hypotheses are estimated more accurately based on the new scale structure. On the other hand, as expected in the literature, the financial well-being scale is divided into two sub-dimensions and named as financial anxiety and financial security. In this context, among the hypotheses that will be expressed in general in the article, personality traits are personal competence, neuroticism, and extraversion variables, while the financial well-being variable includes financial anxiety and financial security.

According to the results of principal component analysis for personality traits, factor loadings (between 0.816 and 0.447), eigenvalues (greater than 1), and total variance

explained (59.128%) values of a three-factor structure seem to be quite sufficient. The most important reason why the factors are loaded in a different format compared to their original structure and are grouped into three factors when there were five factors is due to the difference in the perceptions of Turkish participants due to cultural differences. Since it is applied for the first time to Turkish subjects in the Turkish language, factor loadings and common themes of the statements are considered, and the factors are renamed considering the different distributions in the factors.

The first factor, which consists of the statements "I take care of my work", "I am an extrovert", "I have an active imagination", "I am relaxed", I can cope with stress" and "I am generally trustworthy", can be called personal competence since it is related to extroversion, emotional balance, and responsibility. This characteristic's nomenclature covers the responsibility, extraversion, ability to cope with stress, and trustworthiness of the individual. The variance explained by personal competence in the related factor is 33.21%, which is quite high. In addition, the internal consistency coefficient indicates that it is quite reliable (0.798). Since the statements "I tend to find fault in others" and "I get angry easily" indicate an inability to control emotions, they ideally represent the *neuroticism* factor among the five-factor personality components. The percentage of variance explained in the factor structure (15.483%) and factor loadings are at acceptable levels. In addition, although the internal consistency coefficient of the factor (0.50) is low, it is above the full acceptance limit and seems to be acceptable, albeit low. One of the two main reasons for the low internal consistency coefficient is that the number of statements in the factor is low [93], and the other is that the original scale is applied for the first time in the Turkish language. Especially in adaptation studies, the view that an internal consistency coefficient of 0.50 and above is sufficient is also common [83,94].

Similarly, the internal consistency coefficient of another factor consisting of the statements "I am timid" and "I tend to be lazy" was 0.50. Considering the significance of the items in the factor and its place in the original five-factor personality scale, it is understood that it is appropriate to name it the *extraversion* factor. The contribution of the factor to the total variance explained is 10.434%.

Although the original instrument was based on the Big Five personality model, both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) performed on the Turkish sample yielded a more stable and psychometrically sound three-factor structure. This structure was not forced, but naturally emerged based on eigenvalues (>1), factor loadings (>0.50), and cross-loadings. Such dimensional shifts are not uncommon in non-Western personality assessments, where cultural factors influence both the interpretation and expression of trait-related behaviors [95,96]. The three dimensions identified in our analysis—self-efficacy, neuroticism, and extraversion—are conceptually aligned with the Big Five traits and represent a theoretically plausible structure for this cultural context. Furthermore, several adaptations of the Big Five in Turkish psychometric studies have shown deviations from the five-factor model [26,97].

The financial well-being scale is grouped into two different factors, as accepted and expected in the literature. The Turkish version of the scale was translated from the original language, and it is understood that the scale was adapted considering cultural differences. The total variance explained is calculated as 52.156%. The first factor contributes 35.958% of the total variance and is named the financial anxiety factor consisting of six items. This is consistent with many nomenclatures in the literature [82,98,99] and explains the common structure of the statements. The internal consistency coefficient for financial anxiety is also quite high (0.767). On the other hand, the second factor contributes 16.199% to the total variance and has a nomenclature that can be expressed as financial security consisting of four statements. This nomenclature is consistent with the meanings of the items, their

cultural equivalents, and their usage in the literature [100]. The internal consistency coefficient of the factor is also sufficient (0.766).

The statements related to the theory of planned behavior and the interaction of intention and actual behavior, which were previously used in different practices, were developed by the authors, and the total explained variance percentage of both scales (83.361%) is quite high. Among the factors, the intention to use MM factor has three statements and contributes 62.504% of the total variance. The internal consistency coefficient is also quite high (0.894). Moreover, actual usage behavior is measured with two questions, and its contribution to the total variance explained is 20.856%. The validity of the factor with a very high internal consistency coefficient (0.804) is ensured.

3.2. Measurement Model

Validation of all variables in the study with a first-order multiple model structure is important for SEM analysis and verification of scale validity and reliability. In this context, it would be useful to confirm the measurement model before testing the research hypotheses. The measurement model of the variables in the research is shown in Figure 3.

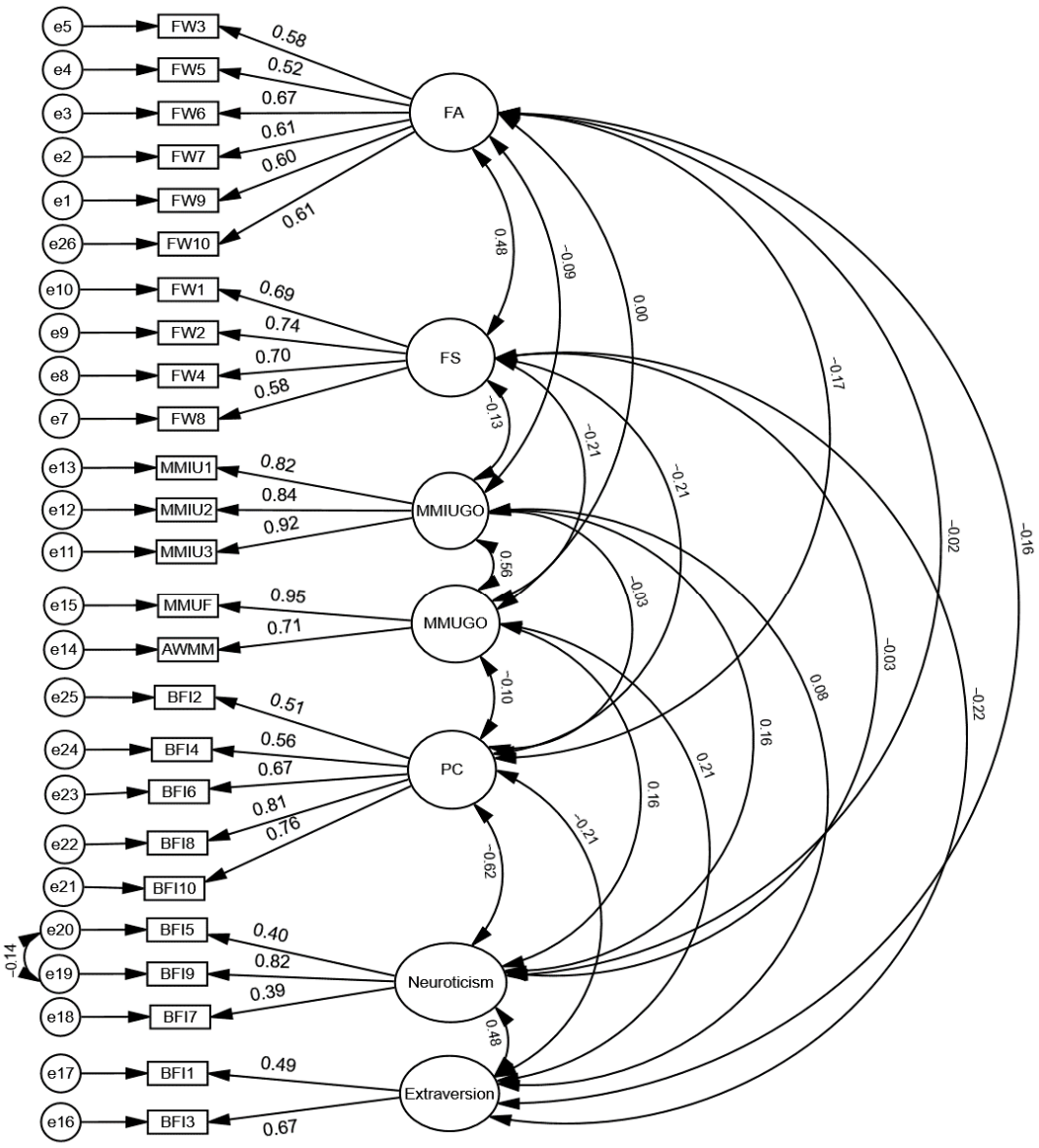


Figure 3. Measurement model.

The goodness-of-fit values of the measurement model show that the model is supported by the data obtained and exhibits a near-perfect fit (($\chi 2 = 609.672$ (sd) = 253; $p < 0.001$); $\chi 2/sd = 2.410$; CFI = 0.924; GFI = 0.924; RMSEA = 0.049; SRMR = 0.0469). In other words, the measurement model consisting of 25 observed variables and 7 latent variables is confirmed by the data obtained. In addition, all observed variables of each latent variable are statistically significant and well above the acceptable limit of 0.50. In this context, although there are different acceptance points in the literature on standardized factor loadings (SFLs), it is emphasized that they should be at least 0.32 and above and that they should have a value of 0.50 and above for good validity [77,100]. When the SFL in the measurement model as a whole is analyzed, although only two items in neuroticism are relatively low, the structure is preserved as it is well above the 0.32 limit and significant. Mean variance extraction (AVE) and composite reliability (CR) coefficients showed the convergent validity of the scale. The CR coefficient also evaluated the reliability of the scale. The following formula was used to calculate the CR coefficient [101]:

$$CR = \frac{(\sum \lambda)^2}{(\sum \lambda)^2 + \sum \varepsilon} = \frac{(\sum \lambda)^2}{(\sum \lambda)^2 + \sum (1 - \lambda^2)} \quad (2)$$

In this context, the AVE, CR, ASV, and MSV values of the factors in the measurement model are shown in Table 5.

Table 5. Conjunction and disjunction validity.

	CR	AVE	MSV	ASV	Neuroticism	FA	FS	MMIUG	MMUG	Extraversion	PC
Neuroticism	0.562	0.328	0.388	0.111	0.572						
FA	0.768	0.357	0.231	0.049	−0.021	0.597					
FS	0.775	0.465	0.231	0.064	−0.030	0.481	0.682				
MMIUG	0.896	0.741	0.312	0.062	0.163	−0.088	−0.125	0.861			
MMUG	0.822	0.702	0.312	0.073	0.159	0.004	−0.211	0.559	0.838		
Extraversion	0.508	0.346	0.227	0.066	0.476	−0.157	−0.221	0.078	0.212	0.588	
PC	0.801	0.453	0.388	0.085	−0.623	−0.165	−0.208	−0.035	−0.095	−0.205	0.673

FA: financial anxiety; FS: financial security; MMIUG: intention to use micromobility; MMUG: use of micromobility; PC: personal competence.

When Table 5 is examined, the combination and discriminant validity of the intention to use MM and actual use behavior of micromobility factors developed by the authors are provided. AVE values of 0.50 and above and CR values of 0.70 and above are noteworthy for convergent and discriminant validity.

Although the CR value for the financial security (FS) variable among the two factors of the financial well-being scale is at an adequate level, the AVE value is observed to be below 0.50, but when this value is not too low, convergent and discriminant validity is ensured. In addition, according to some authors, it is also acceptable for CR to be sufficient if the AVE condition is not met. A similar situation is also valid for financial anxiety (FA).

In personality traits, the relatively low values of the items measured with two expressions and adaptations are particularly striking. Although the AVE values are low (0.453) in the personality trait of personal competence (PC), the fact that the CR value is quite good (0.801) indicates that convergent and discriminant validity is achieved. However, the AVE and CR values of other variables related to personality are quite low, which is due to adaptation and the two-factor structure.

3.3. Common Method Bias

Common method bias may occur in scales where all variables are collected in a single measurement [102] and, as in this study, it may cause misleading results since all dependent

and independent mediator variables are collected in the same period [103]. This can lead to systematic type 1 and type 2 measurement errors, overestimating or underestimating the strength of the relationships between variables [104]. Among the different techniques to eliminate this problem, the ideal solution for this study is Harman's (1960) single-factor test, which is widely used in the literature [102]. To apply this test, all items measuring continuous variables in the study are analyzed as one factor without any rotation in principal component analysis. As long as the resulting single-factor structure explains less than 50% of the total variance, there is no problem of common method bias [102,105]. Since this value is 16.081% in the current study, it is revealed that there is no such problem. Thus, it is confirmed that there is no common method bias variance problem.

3.4. Structural Equation Model Results

Following the confirmation of the validity and reliability structures of the research, an SEM model is created to test the causal structure between the observed variables in order to test the hypotheses. The detailed SEM model in which the hypotheses in the study are tested is shown in Figure 4.

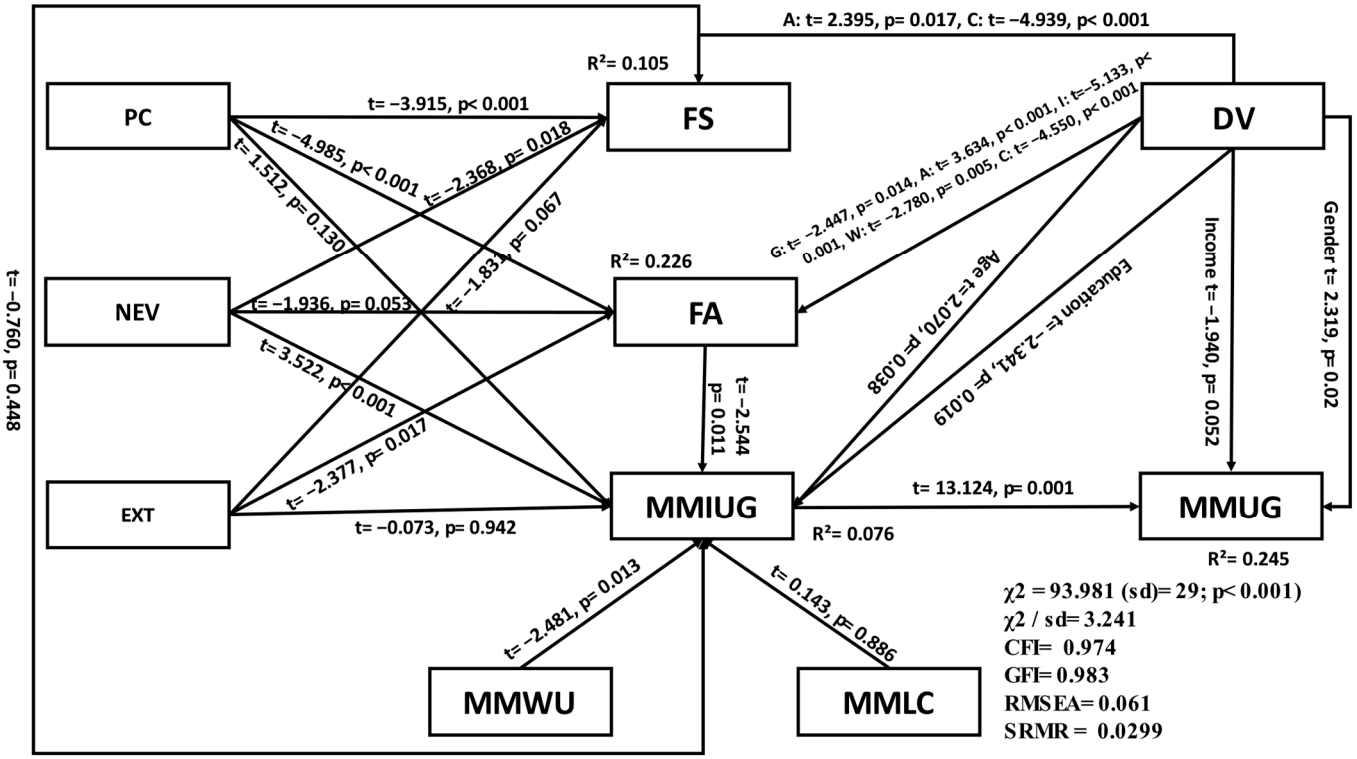


Figure 4. SEM results. NEV: neuroticism; EXT: extraversion; PC: personal competence; FS: financial security; FA: financial anxiety; DV: demographic variables; MMUG: use of micromobility; MMIUG: intention to use micromobility; MMWU: weather conditions; MMLC: land conditions; A: age; C: car, G: gender; l: income; W: vocation. Note: The coefficients β0 and β in the text represent the standardized regression coefficient.

We aimed to redesign the model in order to reduce its complexity. In this context, it is deemed appropriate to include only the significant effects of the demographic variables. The directions of the arrows and statistical values of the paths (such as t, *p*) are presented by aligning them with the arrows. Since there are too many paths from demographic variables, significant paths are presented as the abbreviation of the variables between certain variables (for example, G = −2.447, p = 0.014 for gender). All variables other than demographic variables are presented separately, regardless of their significance.

The SEM model, which addresses the causal relationship between the observed variables directly and indirectly, is supported by the data obtained (($\chi 2$ = 93.981 (sd) = 29; $p < 0.001$); $\chi 2$ /sd = 3.241; CFI = 0.974; GFI = 0.983; RMSEA = 0.061; SRMR = 0.0299). The results obtained from the research model are shown in Table A1.

The effect size of the variables can be estimated through the R^2 value, which shows how many of the changes in the dependent variable are explained by the independent variables. In this context, the Cohen (f2) effect size calculation evaluates the causal relationship between variables through the strength of R2. The effect size is calculated by the following formula:

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}} \quad (3)$$

According to Cohen's [106] criteria, f^2 indicates a small effect size of 0.0196, a medium effect size of 0.130, and a large effect size of 0.260.

It is understood that financial worry and financial security together with personality traits and demographic characteristics explain 7.6% of the variation in the intention to use MM. This indicates that these variables are not significant determinants of the intention to use MM. On the other hand, it is observed that 24.4% of the changes in actual use of micromobility are explained by the intention to use MM and demographic variables. This shows that the parameters determined for actual use of MM are significantly explanatory and intention to use MM has significant contributions to the model. On the other hand, personal competence, neuroticism, extraversion, and other demographic variables together explain 22.6% of the changes in financial worry. Moreover, 10.5% of the changes in financial security are explained by personal competence, extraversion, neuroticism, and other demographic variables.

When the model is analyzed in detail, women, young people, middle-aged people, high-income earners, employees, and individuals with a car have significant financial anxiety. On the other hand, those with an associate's degree, those with higher education, and those in the middle-income group do not have significant financial anxiety. In terms of financial security, no significant effect of males, young people, associate degree holders, higher education holders, middle-income earners, high-income earners, and employees is observed. However, the effect of having a car on financial security is significant. In addition, neuroticism ($\beta 0 = -0.088$; $p = 0.053$), extraversion ($\beta 0 = -0.097$; $p = 0.017$), and personal competence ($\beta 0 = -0.195$; $p < 0.001$) have significant and negative effects on financial anxiety. These findings are consistent with the findings of Obenza et al. [72], who found a positive relationship between extraversion and neuroticism with financial well-being. In this study, neuroticism and extraversion contribute to financial well-being by reducing financial worry. Moreover, neuroticism ($\beta 0 = -0.104$; $p < 0.05$), extraversion ($\beta 0 = -0.072$; $p = 0.067$), and personal competence ($\beta 0 = -0.148$; $p < 0.001$) have significant and negative effects on financial security. These results are consistent with the results of Zyphur et al.'s [71] study examining the relationship between personality traits and financial well-being. They are also consistent with the study by Ahmetoğulları and Arabacı [107], which shows that there is a relationship between income and financial well-being decline. However, the effect of extraversion is insignificant at the 5% level.

When the parameters affecting actual MM usage behavior are examined, it is observed that age, education, income, employment, and car ownership do not have a direct significant effect on MM usage behavior. However, it has a significant effect on the MM usage behavior of those whose income level is middle class at the 10% significance level. Gender ($\beta 0 = 0.190$; $p < 0.05$) and intention to use MM ($\beta 0 = 0.498$; $p < 0.001$) have a significant effect on MM use behavior. These results indicate that these variables may have indirect effects rather than direct effects.

While financial security has no significant effect on intention to use MM (β0 = −0.039; $p = 0.427$), financial anxiety has significant and negative effects (β0 = −0.124; $p < 0.01$). On the other hand, neuroticism (β0 = 0.169; $p < 0.01$) has a significant and positive effect, while extraversion (β0 = −0.020; $p = 0.672$) and personal competence (β0 = 0.043; $p = 0.369$) have no significant effects. Here, the neuroticism trait differs from other studies in the literature. Ge et al. [108] observed that neuroticism has no effect on attitudes towards and adoption of bike-sharing systems, while Karami et al. [91] showed that neuroticism has a negative effect on the use of shared electric scooters. These results can be interpreted as indicating that cultural differences and people's lifestyles also affect their intentions. In this study, which is conducted on Turkish culture and people who have grown up with this culture, it is shown that neurotic people have a positive intention to use MM. In addition, Zhao and Li [39] reported that people with low income are less willing to use bicycles and that the higher the income level, the higher the intention to use bicycles, which is consistent with the result presented in this study that financial anxiety reduces the intention to use MM. Although demographic variables do not have a significant effect on the intention to use MM, a significant effect is observed for mature age (β0 = 0.383; $p < 0.05$) and associate degree graduates (β0 = −0.258; $p < 0.05$). On the other hand, weather (MMWU) has a significant and negative effect on the intention to use MM (β0 = −0.112; $p < 0.01$). However, whether the terrain conditions are suitable or not (MMLC) does not have a significant effect on the intention to use MM (β0 = 0.010; $p = 0.834$).

As a result of the analysis of mediated effects, financial anxiety has a significant effect on actual MM use behavior through intentions to use MM (β0 = −0.064; $p < 0.05$). On the other hand, financial security has no significant effect on actual MM use through intentions to use MM (β0 = −0.020; $p = 0.485$). In terms of personality traits, neuroticism has a significant effect on actual MM use through intentions to use MM (β0 = 0.093; $p < 0.01$), while extraversion (β0 = −0.002; $p = 0.966$) and personal competence (β0 = 0.035; $p = 0.161$) have no significant effect on actual MM use through intentions to use MM. Finally, weather conditions have an indirect effect on actual MM use through intentions to use MM (β0 = −0.056; $p < 0.05$). In addition, a serial multi-mediator model [109,110], which is a linked model with three or more paths consisting of at least two mediating variables, was tested to observe whether personality traits significantly affect the intention to use MM through financial well-being and then actual use. According to the results of the analysis, neuroticism, one of the personality traits, has a significant indirect effect on the intention to use MM through financial anxiety and then on actual MM use behavior (β0 = 0.006, $p < 0.05$). This is one of the unique results of this study. Personal competence, which is one of the personality traits, has a significant effect on the intention to use MM through financial anxiety and then on actual MM use behavior (β0 = 0.012, $p < 0.05$). Similarly, it is understood that extraversion, one of the personality traits, follows a significant path from intention to use MM through financial anxiety to actual use behavior (β0 = 0.006, $p < 0.05$). All these are unique characteristics that show that financial anxiety is an important driving force between personality traits and MM use behavior and that it plays a significant role together with the intention to use MM. On the other hand, the results showing the effect of personality traits on the intention to use MM through feeling financially secure and then on actual use are not significant. This suggests that financial security is not a significant force in the relationship between personality traits and MM use behavior, together with the intention to use MM. These results indicate that individuals who are financially secure do not show a significant preference for transport modes such as MM, regardless of their personality traits.

Examining the relationship between personality traits and demographic variables by looking at the results of the same SEM model is important in terms of evaluating the study

as a whole. When we look at how demographic variables affect personality traits in the SEM model, it is seen that individuals with higher education levels have higher personal competencies, and individuals with high income levels have significantly higher personal competencies than those in the low-income category. It is also determined that middle- and high-income earners are more neurotic than low-income earners. Finally, it is observed that middle-aged people exhibit higher extraversion than young people, middle-income earners exhibit higher extraversion than low-income earners, and employees exhibit higher extraversion than unemployed people.

A diagram reflecting the acceptance or rejection status of the hypotheses in line with the findings obtained in the research is presented (Table 6). Thus, which hypothesis is accepted or not and in what measurement it is accepted can be observed together.

Table 6. Hypothesis conclusions.

Hypothesis	Statement	Sub-Dimension Results	Conclusions
H1	Personality traits have a significant effect on financial well-being.	Financial Anxiety (FA): Neuroticism ✅ ($\beta = -0.088$, $p = 0.053$); Extraversion ✅ ($\beta = -0.097$, $p = 0.017$); Personal Competence ✅ ($\beta = -0.195$, $p < 0.001$) Financial Security (FS): Neuroticism ✅ ($\beta = -0.104$, $p < 0.05$); Extraversion ❌ ($\beta = -0.072$, $p = 0.067$); Personal Competence ✅ ($\beta = -0.148$, $p < 0.001$)	✅ Accepted
H2	Personality traits have a significant effect on intention to use MM.	Neuroticism ✅ ($\beta = 0.169$, $p < 0.01$); Extraversion ❌ ($\beta = -0.020$, $p = 0.672$); Personal Competence ❌ ($\beta = 0.043$, $p = 0.369$)	⚠ Partially Accepted
H3	Intention to use MM increases actual MM use.	Intention → Use ✅ ($\beta = 0.498$, $p < 0.001$)	✅ Accepted
H4	Weather conditions have a significant effect on intention to use MM.	Weather → Intention ✅ ($\beta = -0.112$, $p < 0.01$)	✅ Accepted
H5	Land conditions affect intention to use MM.	Land → Intention ❌ ($\beta = 0.010$, $p = 0.834$)	❌ Rejected
H6	Personality traits have an indirect effect on actual MM use through intention to use MM.	Neuroticism ✅ ($\beta = 0.093$, $p < 0.01$); Extraversion ❌ ($\beta = -0.002$, $p = 0.966$); Personal Competence ❌ ($\beta = 0.035$, $p = 0.161$)	⚠ Partially Accepted
H7	Financial well-being has an indirect effect on actual MM use through intention to use MM.	Financial Anxiety ✅ ($\beta = -0.064$, $p < 0.05$); Financial Security ❌ ($\beta = -0.020$, $p = 0.485$)	⚠ Partially Accepted
H8	Land conditions have a significant indirect effect on actual MM use through intention to use MM.	Land → Intention → Use ❌ (Not Significant)	❌ Rejected
H9	Weather conditions have a significant indirect effect on actual MM use through intention to use MM.	Weather → Intention → Use ✅ ($\beta = -0.056$, $p < 0.05$)	✅ Accepted

4. Discussion

In this study, the intention to use micromobility (MM) and the factors affecting the actual use of MM are examined. For this purpose, the effects of variables such as personality traits, financial well-being, weather, terrain conditions, and demographic factors on MM usage are investigated. Using these variables, nine hypotheses are developed, and these hypotheses are analyzed by the Structural Equation Modeling (SEM) method.

The study is conducted in Bursa, one of the cities with a high socioeconomic level in Turkey. A total of 597 respondents participated in the study through an online survey using five-point Likert-type scales. Confirmatory factor analysis is used to test the accuracy and validity of the scales used in the survey. SEM is used to test the causal relationships between variables. Harman's single-factor test is used to evaluate the common method bias problem.

The study makes two important contributions to the literature. First, the study tests the 10-item version of the personality scale, which has been previously validated and found reliable in German and English, in Turkey, and the adapted scale statements are gathered under three factors in a new structure. The questions belonging to the variables of neuroticism, extraversion, openness, agreeableness, and conscientiousness are grouped into three components, personal competence, extraversion, and neuroticism, in the new structure. This adaptation does not overlap with the adaptation of Horzum et al. [111] in their study. On the other hand, the financial well-being scale consists of two dimensions of financial security and financial anxiety in accordance with the previously used structures.

When a person's financial anxiety decreases, and they have the financial security to feel safe, it can be understood that financial well-being increases. These findings are consistent with Ahmetoğulları [112] definition of the financial well-being scale. In addition, the factor structures of the intention to use MM and actual usage behavior, which were created by the authors within the framework of the TAM, are also confirmed by determining their validity and reliability.

The second and most important outcome of this study is to examine the determinants of MM use behavior. The goodness-of-fit values of the SEM model indicate an excellent fit and confirm that the most important confirmatory factor of MM usage behavior is the formation of intention to use micromobility, as in previous models. This result is consistent with previous studies [43,113], which show that the most important determinant of the actual demonstration of a technology or behavior is the intention to use that technology or behavior. In fact, it can be said that 24.4% of the changes in MM use in the model are explained by intentions to use MM. When calculated in terms of effect size, it is found that the effect size of intentions to use MM on MM use was 32.27%, which is significant and quite high. On the other hand, gender and income, which are demographic characteristics, are also found to have significant importance in this effect. In other words, men are more likely to use MM than women, and high-income earners are more likely to use MM than low-income earners.

The most important determinants of the changes in the intention to use MM are an increase in neuroticism, which is one of the personality traits and significantly increases the intention to use MM ($\beta = 0.172$; $p < 0.01$), followed by an increase in financial anxiety, which decreases the intention to use MM ($\beta = -0.129$; $p < 0.01$), and weather conditions, which decrease the intention to use MM ($\beta = -0.112$; $p < 0.05$). On the other hand, it is found that older individuals had a higher intention to use MM than younger individuals (<18) and those with medium education had a higher intention to use MM than those with low education. While all these significant changes explain 7.6% of the changes in intention to use MM, in terms of effect size, they have a medium effect size of 8.2%. On the other hand, financial security, personal competence, extraversion, and other demographic variables had no significant effect on the intention to use MM.

Personal competence ($\beta = -0.148$; $p < 0.01$) and neuroticism ($\beta = -0.104$; $p < 0.05$), which are personality traits, have the most significant and negative effects on financial security, respectively.

This means that an increase in personal competence, which consists of openness, conscientiousness, and agreeableness dimensions, is associated with an increase in financial security and indicates a decrease in assurance. Increasing neuroticism, which is dominated by emotional instability, also indicates that financial security will decrease. Furthermore, it is understood that the middle-aged group is more financially secure than the very young age group, and those who own a car are more financially secure than those who do not. The effect size of the variables affecting financial security is moderate at 11.8%. On the other hand, extraversion and other demographic variables did not have a significant effect on financial security.

The most important determinants of financial anxiety, which constitutes financial well-being, are personal competence ($\beta = -0.195$; $p < 0.01$), extraversion ($\beta = -0.097$; $p < 0.05$), and neuroticism ($\beta = -0.088$; $p < 0.10$). In other words, an increase in personal competence including openness, agreeableness, and conscientiousness decreases financial anxiety. In addition, an increase in extraversion and neuroticism has a decreasing role in financial worry. These results are consistent with previous studies showing a negative relationship between neuroticism and well-being [11]. On the other hand, it is observed that men have lower financial worry than women, high-income earners have lower financial worry than low-income earners, employed people have lower financial worry than unemployed people, and people with a car have lower financial worry than those without a car. Moreover, another important result of this study is that financial anxiety increases with age. This is because financial anxiety becomes more pronounced as we move from a very young age to young and middle age. Finally, the effect size of the variables affecting the changes in financial anxiety was calculated as 29.20%, which is a high effect size.

4.1. Theoretical Implications

When the indirect effects of the study are analyzed, it is understood that the intention to use MM is mediated by neuroticism and financial anxiety. In other words, while an increase in neuroticism increases actual MM use through the intention to use MM, an increase in financial anxiety decreases MM use through the intention to use MM.

This study is unique in that it examines the effects of personality traits on MM utilization along with the mediating effect of financial well-being, as well as the effect of personality traits on financial well-being. It also makes a new contribution to the literature in terms of adapting the Big Five Inventory scale format to Turkish and testing it on Turkish culture.

The extended model shows that the intention to use micromobility significantly predicts actual usage behavior ($\beta = 0.498$, $p < 0.001$), confirming the central role of intention in the behavioral outcomes suggested by the TAM/TPB/RAA. Furthermore, financial anxiety ($\beta = -0.124$), neuroticism ($\beta = 0.169$), age, and education have strong direct effects on the intention to use micromobility. These findings suggest that users who experience financial stress but show high psychological response, young people who have difficulty in using a car or accessing micromobility, and those with low education are less likely to use micromobility. Therefore, it appears that the mechanism from psychological and financial variables to actual travel mode is mediated by intention, and financial stress and intention to use micromobility significantly mediate the relationship between neuroticism and actual micromobility usage. This highlights the role of individual differences in transportation decisions [37,75].

This study, based on the extended TAM in the adoption of micromobility, provides important theoretical and practical contributions. In contrast to the classical (TAM/TPB/RAA) approaches, the study, which adopted personality traits as subjective norms, provided important results showing direct and indirect effects of neuroticism on micromobility use

intentions and actual use, as well as highlighting the multi-sequential mediating role of financial anxiety, which was particularly tested.

These results indicate the existence of complex psychological mechanisms through which personality traits (neuroticism) affect mobility and environmental decisions, especially when exposed to economic stress. Furthermore, it also shows that highly educated and wealthy groups have higher personal efficacy, that extroversion is significantly increased in middle-aged and employed individuals, and that these are important shapers of personality traits, thus indicating that sociodemographic patterns affect mobility behavior.

4.2. Managerial Implications

In a context where sustainable micromobility, like many elements in developing countries, is also in the development phase, these results provide insights into the development of behaviorally structured and inclusive mobility and financial anxiety-reducing policies. Similarly, internationally, the results provide a broader scope for the psycho-psychological aspects of sustainable carbon-neutral and healthy urban transport in mobility planning and equity-oriented interventions. Thus, by integrating psychological, financial, and behavioral constructs into a single model, this study contributes to a more holistic perspective on the adoption of sustainable micromobility in both developed and developing urban contexts.

For policymakers, personality traits and financial well-being influence MM use; customized incentive and education programs can be developed to address the needs of different demographic groups. In particular, policies to reduce financial anxiety may be effective in increasing MM use.

In Turkey and globally, it is recommended to develop strategies to increase MM use by taking into account personality traits and financial well-being levels. For a sustainable world, it is important for developed and developing countries to develop an environmentally friendly, healthy, and less costly MM-integrated system by considering personality factors and financial indicators, which are the determinants of behavior in particular, together with sociodemographic factors, in order to develop the infrastructure of these tools, increase demand, and reflect on the behavior of individuals in the long term. In addition, the smart city integrated system project, marketing activities and training to increase personal financial literacy, expanding university–sector cooperation protocols, facilitating access to seminars and consultancy services to increase the use of MM, and reducing financial concerns will contribute to the sustainable use of MM by individuals and societies.

This study highlights the decisive role of gender in the actual use of micromobility, taking into account personality and sociodemographic characteristics that increase the intention to use micromobility to promote sustainable urban transport, as well as financial well-being. Low carbon emissions, reduced traffic congestion, decreased fossil fuel consumption, reduced transportation costs, and improved air quality, particularly during the summer months, are important factors in promoting micromobility and shared vehicles that support a sustainable environment. Additionally, this can provide equal opportunities for low-income groups. Having an appropriate infrastructure and dedicated lanes for micromobility in urban transportation and complementary transportation can reduce economic losses and costs by lowering transportation costs, thereby alleviating financial concerns. Integrating an AI-supported complementary transportation module into local government mobile applications; rapidly establishing sustainable urban infrastructure including parking spaces, charging stations, and smart payment technologies; determining user training based on individuals' personality and sociodemographic characteristics; supporting university–local government collaborations; and collaboration between munici-

palities, the private sector, and governments to integrate global standards can provide a safe and comfortable experience at the national level.

4.3. Limitations and Recommendations

This study has limitations such as the sample size being relatively small, having relatively few cars, mainly representing the middle class, the scale being combined into three factors instead of a five-factor structure due to cultural differences, and the exploratory and confirmatory structure being tested with the same data. In future studies, the five-factor personality variable can be measured more precisely with more questions, and the inclusion of variables such as perceived usefulness, usefulness, perceived cost, and reliability in the technology acceptance model that may affect the intention to use MM will increase the depth of the study. In addition, comparisons can be made with the same model by collecting data from similar city structures of developing countries such as Turkey and different countries that are quite advanced in MM.

The reduction of the Big Five Personality Traits to a three-component structure in this study is one of the important limitations. Although the reduction process is based on a scientific approach, solid empirical validations using EFA and CFA, we accept that the full five-factor model provides a broader representation of personality. This new solution, although statistically reliable in our sample, may have had difficulty capturing the richness of the original taxonomy. Similarly, cultural adaptation of personality assessments is still a continuing challenge in international research. Cheung et al. [95] support this position by finding that local factors or cultural interpretation of traits may be different in different populations. Accordingly, we recommend that future studies test both local and global models together, possibly using a two-factor model or multi-group CFA to verify their dimensionality by taking into account differences in cultural settings.

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Data Availability Statement: Since the research includes a quantitative survey examining individuals' personal preferences and circumstances, participants have been informed in advance that the confidentiality of their data will be respected. In this context, we would like to state that the analysis results and findings can be sent and disclosed upon request. However, we prefer not to share the data publicly, as this is important for the confidentiality of the information.

Conflicts of Interest: The author declares no conflicts of interest.

Appendix A

Table A1. Original scales used by researchers and their Turkish adaptations.

Adapted to Turkish	Original Scales
Biriktirdiğim veya biriktireceğim paranın yetmeyeceğinden endişe ediyorum (FW6).	I am concerned that the money I have or will save won't last
Mali durumum hayatımı kontrol ediyor (FW10).	My finances control my life
Para durumum nedeniyle hayatta istediğim şeylere asla sahip olamayacağımı hissediyorum (FW3).	Because of my money situation, I feel like I will never have the things I want in life
Finansal olarak sadece geçiniyorum (FW5).	I am just getting by financially
Bir düğün, doğum günü veya başka bir durum için hediye vermek o ayki mali durumumu zorlar (FW7).	Giving a gift for a wedding, birthday or other occasion would put a strain on my finances for the month
Mali işlerimde gerideyim (FW9).	I am behind with my finances
Finansal geleceğimi güvence altına alıyorum (FW2).	I am securing my financial future
Beklenmedik büyük bir masrafla başa çıkabilirim (FW1).	I could handle a major unexpected expense
Paramı yönetme biçimim sayesinde hayattan zevk alabiliyorum (FW4).	I can enjoy life because of the way I'm managing my money
Ay sonunda kalan param var (FW8).	I have money left over at the end of the month
İşime özen gösteririm (BFI8).	I see myself as someone who does a thorough job
Dışadönük biriyim (BFI6).	I see myself as someone who is outgoing, sociable
Aktif bir hayal gücüm var (BFI10).	I see myself as someone who has an active imagination
Rahatım, stresle başa çıkabilirim (BFI4).	I see myself as someone who is relaxed, handles stress well
Genellikle güvenirim (BFI2).	I see myself as someone who is generally trusting
Başkalarında hata bulma eğilimindeyim (BFI7).	I see myself as someone who tends to find fault with others
Kolayca sinirlenirim (BFI9).	I see myself as someone who gets nervous easily
Sanatsal ilgim azdır (BFI5).	I see myself as someone who has few artistic interest
Çekingenim (BFI1).	I see myself as someone who is reserved
Tembel eğilimliyim (BFI3).	I see myself as someone who tends to be lazy
Mikromobilite kullanmaya devam etmeyi planlıyorum (MMIU3).	
Günlük hayatımda her zaman mikromobilite kullanmaya çalışacağım (MMIU2).	
Gelecekte mikromobilite kullanmaya devam etmeyi düşünüyorum (MMIU1).	
Mikromobiliteyi haftalık kullanım sıklığınız (AWMM).	
Haftalık mikromobilite ortalama kullanım mesafeniz (MMUF).	

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