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Do Tourists Dream of Urban Air Mobility? Psychology and the Unified Theory of Acceptance and Use of Technology

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ABSTRACT

Traffic congestion is a widespread problem that can affect tourists at psychological, cognitive, physical, and social levels. Some cities are solving traffic congestion better than others. The purpose of this study is to unearth the perception of U.S. and Chinese tourists toward the adoption of urban air mobility (UAM). The novelty of the current study dwells in introducing avoidance, hyper-arousal, impairment in functioning and somatization as antecedences of emotional exhaustion and depersonalization and combining emotional exhaustion and depersonalization with the modified Unified Theory of Acceptance and Use of Technology (UTAUT) 2 model. The prospective conceptual framework explained the influencing predominance produced by the dependent variables: intention to use UAM (88.3%), emotional exhaustion (60.9%) and depersonalization (72.0%) for Chinese tourists and intention to use UAM (76.6%), emotional exhaustion (68.4%) and depersonalization (61.3%) for U.S. tourists. We found that emotional exhaustion, depersonalization and modified UTAUT 2 constructs have a significant effect on the intention to use UAM for urban tourism.

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关键词
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旅游者会梦想着城市空中交通吗？结合心理学和整合型科技接受模型

摘要

交通拥堵是一个普遍存在的问题，会在心理、认知、生理和社会层面对游客造成影响。一些城市比其他城市更好地解决了交通拥堵问题。本研究旨在了解美国和中国游客对采用城市空中交通（UAM）的看法。本研究的新颖之处在于引入了回避、过度唤醒、功能障碍和躯体化作为情绪衰竭和人格解体的前因，并将情绪衰竭和人格解体与修改后的整合型科技接受理论（UTAUT）2

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模型相结合。预期的概念框架解释了因变量产生的主要影响因素: 中国游客的 UAM 使用意向（88.3%）、情感衰竭（60.9%）和人格解体（72.0%); 美国游客的 UAM 使用意向（76.6%）、情感衰竭（68.4%）和人格解体（61.3%）。我们发现，情感衰竭、人格解体和修改后的UTAUT 2模型对城市旅游使用UAM的意向有显著影响.

1. Introduction

International travel was devastated by the COVID-19 pandemic in 2020–2021. However, 2022 gave the tourism and hospitality sector a glimpse of hope as 'revenge travel' is sweeping around the world. The latest McKinsey & Company U.S. summer travel report (2022) showed that leisure travel is on the rise, as 68% of respondents claimed that traveling is back 'no matter what' (Holguin et al., 2022). 'Feeling the need' to travel is a recurring theme among people who are desperate to get away and are not shying away from international destinations and memorable, once-in-a-lifetime experiences (Radic, Koo, et al., 2022). Accordingly, urban tourism is experiencing a ripple effect from the 2022 international travel boom as we are witnessing a rising number of visitors in cities worldwide (Brown, 2022). Travelers who purposefully explore cities in search of memorable urban time-space experiences revolving around architecture, culture, arts, city design, restaurants, bars, and shopping are known as urban tourists (Ashworth & Page, 2011; Massey, 2005; Page & Duignan, 2023; Su et al., 2019). Hence, an urban tourist is a traveler and adventurer who seeks urban experiences and enjoys strolling the streets, discovering neighborhoods, observing local people and visitors alike, and simply absorbing the dynamic beat of the city (Chan & Tung, 2022). Bearing in mind that by 2030, 60% of the world's population will live in urban areas and that tourism in cities is the cornerstone of the economy, community and spatial organization (The World Tourism Organization [UNWTO], 2022), it is important to address the ongoing issues of cities' ground infrastructure including traffic congestion (Capuano et al., 2022; Ly & Kong, 2022). As urban tourism is on the rise, it is expected that the traffic congestion levels in cities will also rise, eventually reaching the traffic congestion levels from 2019, prior to the COVID-19 pandemic (TomTom Traffic Index, 2022). Based on a literature review of traffic congestion definitions, Aftabuzzaman (2007) summarized three main aspects: demand-capacity-related, delay-travel time-related, and cost-related.

Before the COVID-19 pandemic, the tourism and hospitality sector brought a staggering 62 billion USD travel surplus to the U.S. economy. Macao (China) alone had a 39 billion USD travel surplus and the largest tourism trade surplus per capita. China was the world's largest spender at 255 billion USD, followed by the U.S. at 152 billion USD (UNWTO, 2020). The majority of the top 100 city destinations in 2019 were in Asia, followed by Europe and then the Americas. In that year, Hong Kong had 26,716,800 tourist arrivals, and New York had 14,010,000 (Street, 2019).

Despite the world economic slowdown, China remains the largest car market in the world today (Yan & Goh, 2022). Many large cities in China are experiencing severe traffic congestion (The World Bank, 2018). Traffic congestion is seen as a major issue in more than 60% of China's 655 cities, with various implications, such as longer commute times

and an increase in commuting expenditure, which negatively affect cities' economies (Li et al., 2020). Similarly, the TomTom Traffic Index (2022) showed that in the 20 U.S. cities with the worst traffic, people lost between 46 (Fresno, California) and 80 hours per year (New York, New York). As tourists are limited in their free time and time is the most precious commodity (Radic, Koo, et al., 2022), it is little wonder that traffic congestion has created a significant cost to the U.S. economy; nearly 87 billion USD in productivity was lost in 2018 (Fleming, 2019). Furthermore, car traffic in cities combined with traffic congestion and long drives can affect tourists at psychological, cognitive, physical, and social levels. Thus, previous research on traffic congestion's impact on urban tourism/urban tourists has proposed various solutions, such as an increase in parking fees (Techaphoositthipong & Siridhara, 2021), government-created policy for the implementation of electric buses (Puchongkawarin & Ransikarbum, 2021), collective forms of transportation (Romão & Bi, 2021), traffic demand management for public transportation by prioritizing bus deployment (Li et al., 2020), waterborne autonomous vehicles (Rong et al., 2020), an active government role in creating policies for the overall management of traffic congestion issues (Butler et al., 2022; Kane & Whitehead, 2017; Orsi et al., 2020), interventions through mobile applications (Aoyagi et al., 2020). Based on the aforementioned studies, the study described here outlines a unique solution to traffic congestion in cities in the form of urban air mobility (UAM).

UAM is defined as the use of aerial passenger and small-scale freight transportation within the urban environment (National Aeronautics and Space Administration [NASA], 2017). In 2016, only a handful of companies were involved in developing flying cars and eVTOL (electric vertical takeoff and landing) vehicles; today, more than 250 companies across the globe are enthusiastically working on them (Swaminathan et al., 2022). As UAM technology evolves, we are now seeing prototypes of flying cars and eVTOL vehicles that not so long ago could be seen only in science fiction. Flying cars are conceptualized as hybrids that can operate on the ground with the capability to lift off vertically and make short to moderate-distance journeys (Eker, Fountas, & Anastasopoulos, 2020). On the other hand, eVTOLs are founded on distributed electric propulsion and small propellers that allow for vertical takeoff and landing with safe flying in between (Misra, 2022). A 'grand design' for the viable and broad deployment of flying cars and eVTOLs will encompass future technology characteristics, making these vehicles intelligent, connected and autonomous. For the purpose of this study, UAM refers to both flying cars and eVTOLs that are intelligent, connected and autonomous.

Looking at the driving factors behind UAM adoption, recent studies showed that performance expectancy in the form of the usefulness of UAM is strongly recognized by U.S (Eker, Fountas, & Anastasopoulos, 2020; Kloss & Riedel, 2021). and Chinese consumers (Yang, 2021). Similarly, a level of ease related to UAM usage is important for U.S (Kasliwal et al., 2019). and Chinese consumers (Zhang, 2022), who hold a deep belief that the UAM will free the cities from traffic congestion (Metz & Griffith, 2021; Zhang, 2022). Moreover, U.S. and Chinese consumers acknowledge the social trend in which their significant others are willing to use UAM due to its advantages and utility (S. S. Ahmed, Fountas, Eker, Still, et al., 2021; Finney, 2022). Nevertheless, as UAM is still not in commercial usage anywhere in the world, the U.S (S. S. Ahmed et al., 2020). and Chinese consumers (Zhang, 2022) confirm that facilitating conditions in the form of policies from regulatory authorities are necessary toward wide UAM adoption (S. S. Ahmed et al.,

2020; Zhang, 2022). However, the level of pleasure and excitement gained from using UAM is quite favorable for both U.S. and Chinese consumers (S. S. Ahmed, Fountas, Eker, Still, et al., 2021; Eker, Fountas, & Anastasopoulos, 2020).

The novelty of the current study dwells in combining avoidance, hyper-arousal, and impairment in functioning from the Stanford Acute Stress Reaction Questionnaire (SASRQ) (Cardeña et al., 1991) with somatization from the Brief Symptom Inventory (BSI) (Derogatis, 1975) as antecedences of emotional exhaustion and depersonalization from the Maslach Burnout Inventory (Maslach & Jackson, 1981). These factors are further combined with a modified version of Venkatesh et al. (2012) Extended Unified Theory of Acceptance and Use of Technology (UTAUT 2) to evaluate U.S. and Chinese tourists' intention to use UAM. Accordingly, the prospective conceptual framework in this paper will give considerable insight into attitudes regarding the adoption of UAM for tourism and contribute to the academic literature by providing an answer to the following research question:

- What are the key factors shaping the adoption of UAM by U.S. and Chinese tourists?

In addition, this research intends 1) to develop a theory-based model founded on an extended version of Venkatesh et al. (2012) modified UTAUT 2 that would elucidate the adoption of UAM by U.S. and Chinese tourists, 2) to empirically test the adoption of UAM in tourism in the aforementioned context, 3) to bring to light the mediating role of emotional exhaustion and depersonalization in intention to use UAM in tourism. The current study comprehensively evaluates diverse factors that may utterly and simultaneously affect U.S. and Chinese travelers' intention to use UAM in tourism.

2. Theoretical framework and development of hypotheses

Human behavior is controlled by the brain; it can be defined as how an individual acts or, more specifically, how he or she acts toward others (Choi & Moon, 2023; Giachino et al., 2023; Suri et al., 2020). Within the academic literature, a handful of well-known proposed theories and models are used to explain human behavior. The Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and the Theory of Planned Behavior (TPB) (Ajzen, 1991) are well-known examples that have been used in various scientific fields. The information and telecommunications revolution brought changes in human society as humans progressively interacted with technology and technological products. Thus, Davis et al. (1989) developed the Technology Acceptance Model (TAM), which is built on the original TRA. TAM proposed that perceived usefulness and ease of use are antecedents of attitudes toward technology adoption. At the beginning of the new century, Venkatesh et al. (2003) saw the opportunity to combine the TRA, TPB, TAM, and TAM-TPB motivational models (Vroom, 1964), innovation diffusion theory (Rogers, 1962) and social cognitive theory (Bandura, 1986) by creating the UTAUT (Baudier et al., 2020). Through structural equation modeling (SEM), UTAUT managed to account for 70% of the variability in behavioral intention by utilizing four main drivers of behavioral intention, namely, performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003).

However, as 2010 brought important technological breakthroughs and changes in society, consumers' behavioral intention toward the adoption of such new technologies also evolved. Thus, in 2012, the original UTAUT was modified to respond to technological advances. Venkatesh et al. (2012) added hedonic motivation, price value, and habit as specific constructs that would resonate with technological advancements that have triggered changes in society. The UTAUT 2, compared to the UTAUT, offered considerable enhancement in elucidating the variance in behavioral intention, accounting for 74% of the variance in behavioral intention (Venkatesh et al., 2012).

Based on the above theory and the demand for a complex understanding of the substantive rationale of urban mobility, our study rests on technology adoption and psychological theories and models to reveal the quintessential mechanism for the adoption of UAM in urban tourism. Modern conceptual models and the analogous scholastic studies on technology adoption foundations for UAM adoption support the combination of diverse models as a baseline for elucidating behavioral intentions. Hence, such consolidation transcends the possible deficiencies of a single model by including benefits from other models (Alazab et al., 2021). Accordingly, in the conceptual framework of this study (Figure 1), built on a modified version of Venkatesh et al. (2012) UTAUT 2, we argue that intention to use UAM in urban tourism is influenced by performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivations, emotional exhaustion and depersonalization. Furthermore, we argue that avoidance, hyper-arousal, impairment in functioning and somatization are antecedents of exhaustion and depersonalization. However, as UAMs are still prototypes, we did not include price value and habit constructs from UTAUT 2 in this study.

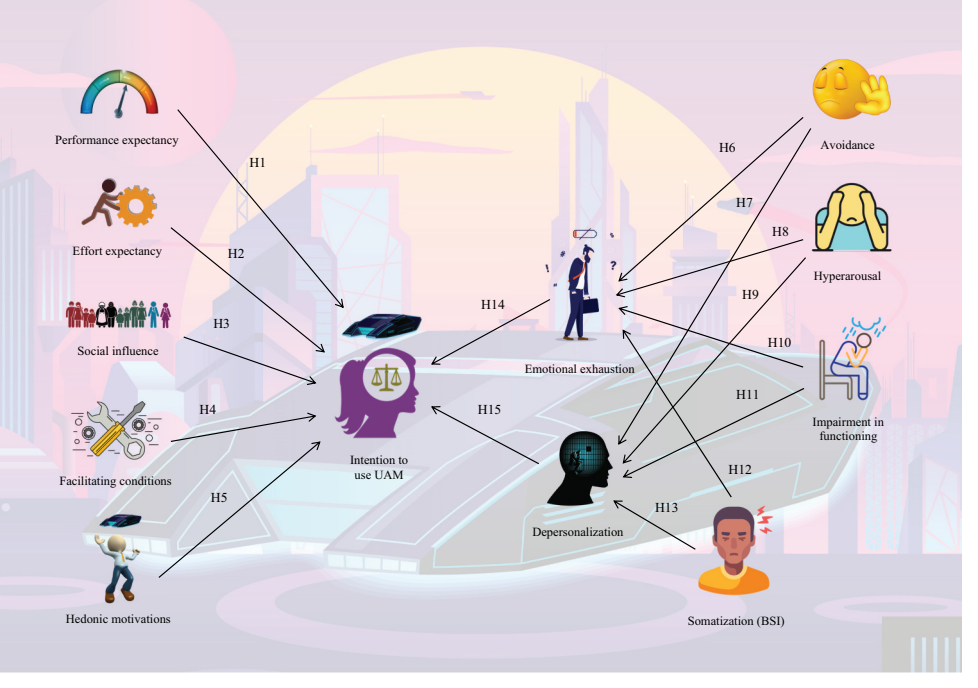

Figure 1. Proposed conceptual framework.

2.1. UTAUT 2 and urban air mobility

Performance expectancy is the most dominant variable in the UTAUT 2 approach as it demonstrates consumers' perception of the usefulness of technology (Kardoyo et al., 2021). The more strongly consumers believe that technology is utilitarian, the further they will go in their intention toward technology adoption (Kardoyo et al., 2021). In a recent study conducted by S. S. Ahmed, Fountas, Eker, Still, et al. (2021), the authors concluded that consumers from high-income households strongly believe in the utility of UAM as they are willing to hire flying taxis. Furthermore, upper-class consumers go even further in their belief in UAM utility as they are eager to allocate additional financial resources (compared to the present) for ride-sharing services so they can benefit from the travel advantages expected from flying cars (Ahmed, Fountas, Eker, Still, et al., 2021). Similarly, Eker, Fountas, and Anastasopoulos (2020) discovered that male consumers strongly favor using UAM for journeys back and forth from the downtown areas of cities. Furthermore, the authors conclude that high traffic volumes and traffic congestion have a robust influence on belief in the utility of UAM for travelers who depend on downtown city traffic routes for transportation (Eker, Fountas, & Anastasopoulos, 2020). The utility of UAM can also be seen in consumers' willingness to relocate to new residential locations outside of the downtown core, as consumers hold the firm conviction that the inception of UAM will provide comprehensive mobility benefits (S. S. Ahmed, Fountas, Eker, & Anastasopoulos, 2021). Moreover, Kloss and Riedel (2021) outline that US consumers will happily board flying taxis and use UAMs due to benefits such as faster business travel, convenient short-distance leisure travel and avoidance of traffic congestion for trips to and from the airport. The utility of UAM in redefining the city mobility and tackling traffic congestion is well accepted by Chinese consumers as there are many users who are hoping that Chinese electric vehicle company XPeng will deliver on its promise that China will have operating UAMs in cities by 2024 (Yang, 2021). Thus, based on the abovementioned studies, the following hypothesis is suggested:

Hypothesis 1a. Performance expectancy has a positive impact on the US tourists' intention to use UAM.

Hypothesis 1b. Performance expectancy has a positive impact on the Chinese tourists' intention to use UAM.

Effort expectancy is described as the level of ease related to consumers' technology usage (Ng & Lee-Post, 2019). Effort expectancy is considered to be a cornerstone in consumers' willingness to adopt technology (Cirilo-Jordan & González-Menorca, 2021). UAM is founded on human society's dream of effortless freedom of mobility, and many industries are pushing the boundaries of innovation in pursuit of that dream (Saeed et al., 2021). UAM could reduce travel time and traffic congestion as features such as vertical takeoff and landing and automated driving based on artificial intelligence could provide fast and safe nonstop travel from one place to the next (Kasliwal et al., 2019). Fully automated driving features are already well accepted among the younger male population of metropolitan areas (Nielsen & Haustein, 2018). Pan and Alouini (2021) argue that

consumers believe UAM will be easy to use since UAM has a minimum dependency on supporting ground infrastructure and offers flexible short travel paths. Moreover, Jang (2022) outlines that the wide adoption of UAM might be further advanced upon the introduction of sensor-related technology that offers superior safety features to autonomous flight. Subsequently, with fully autonomous UAM, consumers would have the possibility of unobstructed operation inside civil airspace (NASA, 2017). Furthermore, US consumers hold a deep belief that the UAM will free the cities from traffic congestion, while operating UAM will be easy 'at the touch of a button on a computer screen' (Metz & Griffith, 2021). Likewise, Chinese consumers appear to have quite a futuristic outlook on UAM as recently government officials have deployed research and development on UAM as the Chinese consumers have a firm conviction on the integration of UAM in the fabric of society (Zhang, 2022). Thus, the following hypothesis is put forward:

Hypothesis 2a. Effort expectancy has a positive impact on the US tourists' intention to use UAM.

Hypothesis 2b. Effort expectancy has a positive impact on the Chinese tourists' intention to use UAM.

Social influence is described as the degree to which the consumer recognizes that significant others believe that she or he should utilize new technology (Ammenwerth, 2019). Thus, once consumer sees that significant others use new technology and sees the advantages of its utility, that consumer will become eager to adopt such technology (Nordin et al., 2020). Young females prefer UAMs as they can accommodate 2–4 passengers; this, combined with UAM's potential for decreased commute times and automated ability, are robust determinates in choosing UAM as a preferred system for urban mobility (Eker, Fountas, & Anastasopoulos, 2020; Koo et al., 2022). Similarly, due to the sharing capabilities of UAM, it appears that 30-year-old or younger individuals are enthusiastic about using UAM for traveling in groups for organized learning activities, leisure-motivated short-duration travel, and even traveling great distances (Eker, Fountas, & Anastasopoulos, 2020). The commute time advantages of UAM also have a significant positive effect on suburban living, as UAM offers the benefit of decreased commuting time to visit friends and family; hence, technophiles who favor UAM have a positive impact on UAM acceptance within their social circle (S. S. Ahmed, Fountas, Eker, & Anastasopoulos, 2021; Koo et al., 2022). Furthermore, consumers who are willing to participate in UAM ride-hailing choose such options due to the clear benefits of reliable commute times, as UAM can avoid traffic congestion in heavily populated districts (Eker, Fountas, & Anastasopoulos, 2020). Moreover, as we see the proliferation of social network that allows consumers to engage in rideshares with friends, family or people to whom they are somehow connected, Eker, Fountas, Anastasopoulos, and Still (2020) outline that there is a clear consumer willingness to use UAM share rides. Thus UAM consumers could engage in sustainable development as shared rides in UAM would lower carbon footprint per person (Eker, Fountas, Anastasopoulos, & Still, 2020). In

recent study conducted by S. S. Ahmed, Fountas, Eker, Still, et al. (2021) where 584 US respondents (out of 692 participants) were involved, authors concluded that consumers from UAM expect decreased and reliable commute times in traffic congestion-prone urban districts and they are even willing to pay over 20 $USD per mile more (compared to conventional rate) for the UAM ride-hailing services. Similarly, Chinese 'urban elite' is eager to engage in a friendly environment of four-seated UAM suitable for commuting between Chinese megalopolises for business and leisure (Finney, 2022). These social influence factors led to the following hypothesis:

Hypothesis 3a. Social influence has a positive impact on the US tourists' intention to use UAM.

Hypothesis 3b. Social influence has a positive impact on the Chinese tourists' intention to use UAM.

Facilitating conditions are described as the level to which the consumer believes that an institutional and civil engineering infrastructure has been established to support the use of technology (Bala et al., 2017). Within the field of future technologies, facilitating conditions also include nurturances such as stimuli, training and client services provided by technology developers and service providers to accelerate technology adoption (David-West et al., 2018). In the foreseeable future, UAM might strengthen ride-sharing mobility for urban and city-to-city transportation and ameliorate urban traffic congestion connectivity problems between the downtown areas of megalopolises and airports, although not without support in the form of policies from various regulatory agencies, technological leaps in battery efficiency (for long-distance travel), advanced communication systems, diverse safety factors and the design of vertical ports (Saeed et al., 2021; Ward et al., 2021). Thus, potential consumers of UAM outline that policies from regulatory authorities are the foundation of early technology adoption, as designing adequate safety policies and associated procedures positively impacts UAM early adopters (S. S. Ahmed et al., 2020). Furthermore, early adoption of UAM depends on the extent to which UAM manufacturers, UAM service providers and regulatory authorities can guarantee relevant monitoring systems for UAM, appropriate safety procedures and policies, supporting systems for law enforcement (in order to prevent technology abuse), technological advancements to decrease the likelihood of any mechanical malfunctions or misfortune, and technology advancements that provide fidelity in mandatory collision avoidance (Mofolasayo, 2020). Thus, United Airlines' recent investment in UAM manufacturer Eve is driven by the assurance in the potential growth opportunities in the US based UAM market and Eve's unique relationship with Embraer, as Embraer's service centers, repair parts logistics and terrain service technicians are indispensable in clearing the path for a functional reliability (United Airlines, 2022). Similarly, China's Ministry of Transport (MOT) has recently issued a framework of a medium- and long-term agenda

for the development in the field of science and technology innovation in transportation (2021–2035), which incorporates important narrative in support of UAM (Zhang, 2022). Consequently, the authors put forward the following hypothesis:

Hypothesis 4a. Facilitating conditions have a positive impact on the US tourists' intention to use UAM.

Hypothesis 4b. Facilitating conditions have a positive impact on the Chinese tourists' intention to use UAM.

Hedonic motivation is described as the pleasure and excitement gained from using technology (Wali et al., 2018). The main purpose of hedonic motivation is to explain and interpret the emotional and mental features of the technology (Wali et al., 2018). Duwe and Sprenger (2019) argue that the acceptance of UAM will be culture-specific, as consumers value the pleasure and enjoyment of the innovativeness and privacy offered by UAM. Asians are quite favorable toward hiring autonomously operated UAM taxi services (S. S. Ahmed, Fountas, Eker, Still, et al., 2021), as Asians are known to be champions of early adoption since they enjoy the pleasure of using new technology (Tran, 2019). Similarly, consumers from affluent households are enthusiastic about the idea of utilizing UAM services and are ready to spend more than they do on current ride-hailing services to enjoy the prospective travel satisfaction provided by UAM (S. S. Ahmed, Fountas, Eker, Still, et al., 2021). Eker, Fountas, and Anastasopoulos (2020), in their study on willingness to buy and use UAM, confirmed that Asian respondents are open to paying around 300,000 USD for the pleasure and enjoyment of owning and utilizing UAM for various traveling purposes. The enjoyment of luxury and status symbol provided by owning UAM comes with a hefty price tag; a third (31.52%) of females (out of 276 participants, the majority from the U.S.) are willing to buy UAMs priced around 200,000 USD (Eker, Fountas, & Anastasopoulos, 2020). It is well known that hedonic motivation drives technophiles toward technology adoption (Hao, 2021), thus (Eker et al., 2019) argue that technophiles are anticipated to be among the earliest consumers of UAM, whereas US technophiles look forward to decreased urban commute times since it leaves them with more free time for enjoyment in professional, collective and pleasure and enjoyment-related activities (S. S. Ahmed, Fountas, Eker, & Anastasopoulos, 2021). Based on the aforementioned arguments, the subsequent hypothesis is proposed:

Hypothesis 5a. Hedonic motivation has a positive impact on the US tourists' intention to use UAM.

Hypothesis 5b. Hedonic motivation has a positive impact on the Chinese tourists' intention to use UAM.

2.2. Traffic Congestion-Related Psychological Distress and urban air mobility

Avoidance is one of the manifestations of acute stress disorders and is a direct result of a traumatic event (United Nations Human Rights Office of the High Commissioner, 2022). Avoidance behaviors are essentially an attempt to back away from circumstances and emotions that bring out trauma-related manifestations (Kibuh & Fokum, 2022). Thus, individuals who, due to a traumatic experience, engage in avoidance most often experience emotional changes such as detachment from others, apathy toward previously enjoyable activities, or difficulties feeling positive emotions such as bliss or love (Kibuh & Fokum, 2022). Avoidance behaviors are related to feelings of being emotionally over-extended and exhausted (emotional exhaustion) (Martínez et al., 2020). Schoch et al. (2019) outlined that among the individuals who have experienced a traffic collision, up to 30% of them experience acute stress disorder that is manifested through avoidance of traffic in general and specific avoidance of peculiar driving situations such as traffic congestion. Traffic congestion can lead to acute stress where individuals completely avoid urban traffic since they experience mental issues in the form of being emotionally drained (Nadrian et al., 2019). Nadrian et al. (2019) reported that due to the acute stress caused by traffic congestion, certain individuals avoid traffic altogether as they feel trapped, and they experience detachment from their thoughts, feelings and even their bodies (depersonalization). Similarly, over tourism in touristic destinations unavoidably leads to traffic congestion where certain tourist avoid such destination as they experience the urge of withdrawal from such environments (derealization) (García-Buades et al., 2022). Thus, the urban traffic congestion in many cities in China became alarmingly serious as it impacts people mental health in many ways (Zhang, 2022). Likewise, Kumar (2020) outlined that in the US due to traffic congestion some individuals experience acute stress and resentment, which leads them toward avoidance behavior, emotional exhaustion and withdrawal from such environments. Thus, based on the abovementioned, the following hypotheses are suggested:

Hypothesis 6a. Avoidance has a positive impact on US tourists' emotional exhaustion.

Hypothesis 6b. Avoidance has a positive impact on Chinese tourists' emotional exhaustion.

Hypothesis 7a. Avoidance has a positive impact on US tourists' depersonalization.

Hypothesis 7b. Avoidance has a positive impact on Chinese tourists' depersonalization.

Hyperarousal is a high level of physiological arousal defined by an individual experiencing at least three of the following six symptoms: insomnia, agitation, distractibility, racing thoughts or flight of ideas, pressured speech and intrusiveness (H. J. Lee et al., 2019). Hyperarousal is developed by the amygdala, based on essential cognition foundations; however, dysfunctional hyperarousal leads to a range of peritraumatic emotions (Weston, 2014), such as irritability, apathy, helplessness, irrational anger (emotional

exhaustion), depersonalization and derealization (Vásquez et al., 2012). Traffic congestion can lead to various physiological and psychophysiological processes, such as hyperarousal, which can further lead to physical fatigue, depression, irritability and irrational anger (emotional exhaustion), which affect a driver's behavior and decision-making skills, potentially causing a collision (Nazari et al., 2017). Traffic congestion presumably leads to hyperarousal, irritability and irrational anger in drivers, which can lead to collisions in congested traffic (G. Li et al., 2020). Similarly, certain individuals who were previously involved in a traffic congestion collision or have seen a traffic congestion collision can develop post-accidental syndrome, which is closely related to acute stress disorder and is manifested as hyperarousal, irritability, irrational anger, nervousness, apathy (emotional exhaustion), depersonalization and derealization (Pegin & Pegina, 2021). The negative outside factors of transport, including traffic congestion and road accidents, are crucial issues of the contemporary world, as traffic congestion and accidents create adverse mental health outcomes (Albalate & Fageda, 2021). Accordingly, study by Ma et al. (2018) showed that negative effects of Beijing (China) traffic congestion has direct effects on mental health causing insomnia, agitation, distractibility (hyperaurosal), physical fatigue, apathy, headaches (emotional exhaustion) and derealization. Moreover, Beland and Brent (2018), in their study on traffic congestion in Los Angeles (U.S.A.), concluded that traffic congestion leads to the domestic violence and Frakt (2019) points how traffic congestion in Los Angeles negatively affects psychological well-being, since when some people are stuck in traffic they experience hyperaurosal, feelings of hopelessness, irritability, irrational anger and depersonalization. Thus, the following hypotheses are put forward:

Hypothesis 8a. Hyperarousal has a positive impact on US tourists' emotional exhaustion.

Hypothesis 8b. Hyperarousal has a positive impact on Chinese tourists' emotional exhaustion.

Hypothesis 9a. Hyperarousal has a positive impact on US tourists' depersonalization.

Hypothesis 9b. Hyperarousal has a positive impact on Chinese tourists' depersonalization.

Impairment in functioning is another acute stress disorder manifestation that psychologically, cognitively, or physically affects certain people so that those individuals cannot perform the personal and instrumental activities of daily living (Ross et al., 2018). Impairment in functioning is related to other mental health disorders, such as depressive disorders, in which people experience trouble sleeping, feelings of hopelessness, apathy (emotional exhaustion) and even depersonalization and derealization (Katz, 2020). Traffic congestion can lead to non-fatal traffic accidents where involved individuals may develop different types of mental health problems such as impairment in functioning (posttraumatic stress disorder (PTSD)), apathy and depression (emotional exhaustion), and depersonalization (Boelen et al., 2022). Traffic congestion in heavily populated

cities is a common cause of traffic accidents. Up to 13% of accident-affected individuals experience symptoms of acute stress disorder within the first 30 days of the accident, and up to 21% have subclinical manifestations of acute stress disorder (Goh et al., 2019). Thus, certain individuals who experience road traffic accidents develop impairment in functioning, which affects them in other mental ways, such as trouble sleeping, depression, apathy, a sense of dread (emotional exhaustion) and depersonalization, which, without professional intervention, have the strong potential to develop into PTSD (Goh et al., 2019). Traffic congestion affects unruly drivers and their overall driving experiences, too, as they can experience acute stress disorder manifested through impairment in functioning (N. Ahmed & Rony, 2021), which could lead to depression, apathy and depersonalization (Rahman et al., 2019). Moreover, within children who have suffered road traffic injuries in Wenzhou (China) almost one third (24.77%) have developed mental health issues such as impairment in functioning (Wu et al., 2016). Beland and Brent (2018) found that traffic congestion is unpleasant experience for Los Angeles (U.S.A.) commuters as it leads to negative mental health outcomes, such as irritability, irrational anger and depersonalization. Hence, the aforementioned justification led to the following hypothesis:

Hypothesis 10a. Impairment in functioning has a positive impact on US tourists' emotional exhaustion.

Hypothesis 10b. Impairment in functioning has a positive impact on Chinese tourists' emotional exhaustion.

Hypothesis 11a. Impairment in functioning has a positive impact on US tourists' depersonalization.

Hypothesis 11b. Impairment in functioning has a positive impact on Chinese tourists' depersonalization.

Somatization is defined as seeking medical assistance for physical symptoms that cannot be comprehensively explained by physiopathology, but the sufferer nonetheless credits to physical illness (DeMaso & Shaw, 2019). Somatization is associated with psychological and physical trauma (Lanzara et al., 2019). Traffic congestion is, for some individuals, a traumatic experience (Erdener et al., 2021), and traumatic experiences can cause driving phobia, which is manifested as somatization that leads to other psychological symptoms such as headaches, insomnia, agitation (emotional exhaustion), depersonalization and derealization (Costa et al., 2018). Experimental research in psychology has confirmed a relationship between traffic congestion and acute stress levels in commuters (Imisiker et al., 2019). A recent study conducted in the Guangxi Zhuang Autonomous Region by Wang et al. (2021) showed that some drivers experience somatization and phobia that is manifested as depression, obsessive-compulsiveness, apathy and depersonalization. Traffic congestion often leads to road accidents; these are both communal issues with a heavy load on society (Shetty & Liu, 2021) as they can lead to acute stress disorder and somatization that can further develop in some individuals into mood

disorders, phobic travel anxiety, emotional exhaustion and depersonalization (Costa et al., 2018). Hence, traffic congestion has wider implications for driving behavior as it is linked to acute stress disorder characterized by irritability, irrational anger and aggressive driving behavior that also affects drivers' post-congestion driving and increases collision risks (Li et al., 2020). Driving anxiety and fear of driving are often related to peculiar driving situations or circumstances (unfavorable weather conditions or traffic conditions including traffic congestion) where certain individuals are experiencing somatization, irritability, irrational anger, apathy, loss of attention and depersonalization which are all part of deeper motif of agoraphobic or trauma-related avoidance (Taylor, 2018). Likewise, research in the US has uncovered a robust relationship between fear and insecurity and somatization, where somatic symptoms lead to the irritability, irrational anger and depersonalization (Lin et al., 2020). Consequently, the authors put forward the following hypotheses:

Hypothesis 12a. Somatization has a positive impact on US tourists' emotional exhaustion.

Hypothesis 12b. Somatization has a positive impact on Chinese tourists' emotional exhaustion.

Hypothesis 13a. Somatization has a positive impact on US tourists' depersonalization.

Hypothesis 13b. Somatization has a positive impact on Chinese tourists' depersonalization.

Emotional exhaustion is defined as a reduction in an individual's emotional resources due to the accumulated stress from negative or challenging events, in which a person exhibits the characteristics of being emotionally drained, irritable, angry, nervous, apathetic, depressed, hopeless, insomniac, overwhelmed and fatigued (Shanafelt & Swensen, 2020). Emotional exhaustion is a source of acute and chronic stress disorders with physical and emotional consequences that influence a person's behavior (Leiter & Maslach, 2022). Unfavorable traffic conditions, including traffic congestion, can lead to irritability, nervousness, anger, rage and verbal aggression among drivers (Popușoi et al., 2018). Moreover, as traffic congestion leads to lost time (TomTom Traffic Index, 2022) and time is the most precious commodity for humans (Radic et al., 2020), many commuters feel irritability, hopelessness and apathy when they are stuck in traffic jams (Nadrian et al., 2019). Thus, as time lost due to traffic congestion might lead to apathy, depression, irritability, anger and hopelessness (Nadrian et al., 2019), male users are looking into changing their current commuting behavior and, in the near future, adopting UAM for commuting back and forth from the downtown area of cities (Eker, Fountas, & Anastasopoulos, 2020). Time is valued highly by people who earn high incomes based on their education or professional skills (Blackwell & $ Bailey, 2022); such individuals can feel apathy, depression, and irritability when stuck in traffic (Schimpfössl, 2018). Thus, those individuals are willing to change their current urban travel and city commuting habits from ground

transportation to UAM as they hold firm beliefs in the utility of UAM (S. S. Ahmed, Fountas, Eker, Still, et al., 2021). Traffic congestion increases air pollution (Lu et al., 2021), and in such situation women experience helplessness and apathy (Khosrorad et al., 2022), thus, Eker, Fountas, Anastasopoulos, and Still (2020) argue that people who are negatively affected by traffic congestion and who want to engage in sustainable development are willing to utilize shared rides in UAM as such action would lower their carbon footprint. Based on the aforementioned arguments, the following hypothesis is proposed:

Hypothesis 14a. Emotional exhaustion has a positive impact on the US tourists' intention to use UAM.

Hypothesis 14b. Emotional exhaustion has a positive impact on the Chinese tourists' intention to use UAM.

Depersonalization and derealization are defined as the process of developing gloomy standpoints and negative sentiments toward one's current conditions and surroundings and a tendency to assess oneself negatively in relation to one's current circumstances (Leiter & Maslach, 2022). Depersonalization and derealization are manifested as feelings that an individual is an external viewer of his conceptions, sentiments, body or body parts; feelings of not being in control of articulation or gesture; emotional or bodily immobility to respond to one's surroundings; feelings of estrangement from one's ambience; and the perception of distorted time and surroundings (Jaque & Thomson, 2019). Accordingly, depersonalization as a posttraumatic psychobiological syndrome could alter individuals' behavior, including identity alteration (Lebois et al., 2022). Traffic congestion can be demanding and stressful for drivers and commuters. Some commuters and drivers frequently experience feelings of not being in control, time being distorted and being lost in their surroundings (Chen & Hsu, 2020). Thus, commuters who experience depersonalization during traffic congestion (McCay, 2019) will adopt UAM as UAM can offer decreased and reliable urban and intercity commute times, increased safety and security and unobstructed ingress to various locations (Ahmed, Fountas, Eker, Still, et al., 2021). Likewise, as some commuters may experience distorted time and surroundings when stuck in traffic jams (Nadrian et al., 2019), they may choose UAM to enjoy the benefit of nonparticipation in adverse traffic situations and a reduction in perceived travel time (Eker, Fountas, Anastasopoulos, & Still, 2020). Traffic congestion in urban areas affects certain individuals in a way that they have a feeling of not being in control (Frison et al., 2019), thus, some of those individuals are even willing to relocate in order to have more time for themselves (Llorca et al., 2022). As traffic congestion seems to be unbearable to certain individuals, they are willing to relocate to suburban areas as UAM can provide them with the advantage of decreased commute time (Ahmed, Fountas, Eker, & Anastasopoulos, 2021). Thus, the following hypothesis is suggested:

Hypothesis 15a. Depersonalization has a positive impact on the US tourists' intention to use UAM.

Hypothesis 15b. Depersonalization has a positive impact on the Chinese tourists' intention to use UAM.

3. Research methodology

3.1. Measures for study variables

The survey contained a mix of multi-item measures (see Appendix A for a complete list of items). Scale items for this study were adopted from previously validated measurement items and were anchored on a 7-point Likert-type scale. Performance expectancy, effort expectancy, social influence, facilitating conditions and hedonic motivation were adopted from Venkatesh et al. (2012) scale. Additionally, avoidance, hyperarousal, and impairment in functioning were adopted from Cardeña et al. (1991) scale, somatization from Derogatis's (1975) scale, and behavioral intention from K. W. Lee et al. (2017) scale. The procedural method for minimizing a common method bias of self-administrated questionnaires was accomplished by using the guidelines set by Jordan and Troth (2020). For the most part, all respondents were well-informed regarding the objective of the analysis and how the outcomes would be utilized. The survey was not sizable, its item scales were not outreached, expressing within the items was discreetly equalized, scales were acquired from distinguishable origins, and the presented inquiries were clear and univocal (Jordan & Troth, 2020). Lastly, the above group of procedural countermeasures was validated in recent studies by Radic, Koo, et al. (2022, 2022) and Calder et al. (2022). Hence, common method bias is not expected to be an issue in this research.

The questionnaire was developed in English and then translated into Chinese. Subsequently, the questionnaire was further pilot-tested by a committee consisting of faculty members and undergraduates/postgraduates in the field of tourism and hospitality. Lastly, the questionnaire was appraised by persons whose first language is Chinese.

3.2. Data collection and statistical results of the participants' personal information

This study used an online survey through Qualtrics, a professional survey agency located in the U.S. and China. We targeted U.S. and Chinese residents aged 18 or over who have heard of or are familiar with urban air mobility and have participated in urban tourism. After the study was approved by an institutional review board (IRB), Qualtrics distributed the survey to potential participants in the U.S. and China in April 2022. There was a lack of a sampling frame to reach these respondents, so we used a non-probability sampling procedure to collect the data. The beginning of the questionnaire stated the purpose of the study and all instructions related to this study. Participants were requested to thoroughly read the description of the purpose and content of the study as they completed the questionnaire. In order to ensure that the participants fully understood the content of the questionnaire, the following screening questions were used: 'I have heard

about Urban Air Mobility (UAM) vehicles' and 'In the last 5 years I have traveled in certain city/cities as in urban tourist.' Participants who answered 'Yes' to the screening questions were eligible to participate in the survey; participants who answered 'No' were disqualified. Participants were paid 5 USD, and all recruitment and data collection were handled directly by Qualtrics. After the screening process and the completion of the questionnaire by the qualified participants, a total of 402 questionnaires were collected from the U.S. sample and 410 questionnaires from the Chinese sample. We discarded incomplete and missing responses to analyze the data effectively. Correlations between measurements may be amplified or minimized by multiple factors if they are affected by common method bias. We used the Harman single-factor test, which loads all items into a common factor. The total variance of a single factor, when it is less than 50%, indicates that common method bias did not affect the data. The results of the test in this study showed a total variance of 38.083% (less than 50%) for the single factor (Podsakoff et al., 2003). Therefore, there is no common method bias in the data sample of this study. We obtained 377 valid samples from the U.S. and 387 from China for this study's data analysis.

Among the 377 U.S. samples, 56.8% of the participants were male, and 43.2% were female. The average age was 40.67 years old. Participants with an annual income of $100,000 or more accounted for 42.7% of the total sample, 11.1% of participants had an annual income of $85,000–$99,999, 10.3% had $25,000–$39,999, 9.8% had $40,000–$54,999, 9.3% had $55,000–$69,999 and 8.8% had a $70,000–$84,999 annual income. Lastly, 8.0% of participants had an annual income below $25,000. Regarding the level of education, 36.1% of participants had a college degree, followed by 35.3% with a graduate degree, 15.9% with a high school degree and 11.1% with a 2-year degree. Finally, 1.6% of participants had less than a high school degree. Looking at the number of previous urban vacation experiences (in the past five years), participants with 2–3 urban vacation experiences accounted for 39.3%, followed by 30.2% who had 4–5, 13.8% who had only one, 10.3% who had 6–9 and 6.4% with 10 or more urban vacation experiences. Lastly, in response to the question 'For you, how important is city transportation when choosing a metropolitan city for a city staycation?,' 42.4% of participants considered city transportation to be extremely important, 36.3% considered it important, 11.1% considered it neither unimportant nor important, 7.7% considered it extremely unimportant and 2.4% thought it was not important.

Among the 387 Chinese samples collected, 27.1% of the participants were male, and 72.9% were female. The average age of the participants was 33.86 years old. Participants with an annual income of $100,000 or more accounted for 48% of the total sample, 15.0% had an annual income of $55,000–$69,999, 12.9% had $70,000–$84,999, 12.7% had $85,000–$99,999, 9.3% had $40,000–$54,999, 1.8% had $25,000–$39,999 and 0.3% had an annual income of less than $25,000. Regarding level of education, 62.0% of participants had a graduate degree, 36% had a college degree, and 1% had a high school degree or 2-year degree. Looking at the number of previous urban vacation experiences (in the past five years), participants with 10 or more urban vacation experiences accounted for 37.0%, 26.6% had 4–5, 20.9% had 6–9, 13.2% had 2–3, and 2.3% had only one. In answering the question 'For you, how important is city transportation when choosing a metropolitan city for city staycation?,' 53.0% of participants answered it was extremely important, while 33.6% of participants considered it important.

4. Results

4.1. Data quality testing with confirmatory factor analysis

In this study, a measurement model was developed through confirmatory factor analysis. This process was implemented through the programs SPSS 26.0 and AMOS 26.0. As a result of the analysis, the measurement model built on the basis of the U.S. and Chinese samples exhibited satisfactory goodness-of-fit (U.S.: $\chi2 = 1840.591$, df = 836, $\chi2/df = 2.202$, $p < .01$, IFI = .928, TLI = .918, CFI = .927, RMSEA = .057; CN: $\chi2 = 1740.360$, df = 836, $\chi2/df = 2.082$, $p < .01$, IFI = .932, TLI = .922, CFI = .931, RMSEA = .053). As shown in Table 1 and Table 2 and the Appendix, the factor loadings of all items ranged from .644 to .915 and presented a significant relationship ($p < .01$) with the latent factors associated with each of them. Also, the skewness and kurtosis of all items were within ± 2 (see Appendix). This proved that the normality of the data sample was acceptable (Hair et al., 2010). In addition, composite reliability values (CR) for all the constructs ranged from .752 to .954, all above the threshold value of .700 suggested by Hair et al. (2017). The average variance extracted values (AVE) ranged from .503 to .805, all above the suggested threshold value of .500 (Hair et al., 2017). This result demonstrates the internal consistency and a favorable convergent validity of all the measures in this study. The correlation coefficient values between all factors were also less than the √AVE values of each factor, which proves good discriminant validity between the structures of measurement items (Fornell & Larcker, 1981).

4.2. Assessment of hypotheses testing and indirect and total effects of the structural Model

The generated structural model was tested using the maximum likelihood estimation method. Outcomes, as shown in Table 3, indicated that the goodness-of-fit statistics of the structural model presented a satisfactory level of excellence (U.S.: $\chi2 = 2482.112$, df = 914, $\chi2/df = 2.716$, $p < .01$, IFI = .910, TLI = .900, CFI = .909, RMSEA = .068; CN: $\chi2 =$ (2452.235, df = 921, $\chi2/df = 2.663$, $p < .01$, IFI = .934, TLI = .906, CFI = .933, RMSEA = .073). Specifically, the findings for each path of the structural model were as follows: performance expectancy (U.S.: $\beta = .474$, $p < .01$; CN: $\beta = .501$, $p < .01$), effort expectancy (U.S.: $\beta = .174$, $p < .01$; CN: $\beta = .158$, $p < .01$), social influence (U.S.: $\beta = .248$, $p < .01$; CN: $\beta = .093$, $p > .05$), facilitating conditions (U.S.: $\beta = -.059$, $p > .05$; CN: $\beta = .129$, $p < .05$), hedonic motivations (U.S.: $\beta = .275$, $p < .01$; CN: $\beta = .227$, $p < .01$), emotional exhaustion (U.S.: $\beta = .385$, $p < .01$; CN: $\beta = -.154$, $p < .05$), and depersonalization (U.S.: $\beta = -.229$, $p < .01$; CN: $\beta = .382$, $p < .01$). Regarding intention to use, we found that hypotheses H1a, H1b, H2a, H2b, H3a, H4b, H5a, H5b, H14a and H15b were supported by the test results. In contrast, H3b and H4a were not supported. Since hypotheses 14b and 15a establish the existence of a positive impact relationship between the constructs, while the results (CN: $\beta = -.154$, $p < .05$; U.S.: $\beta = -.229$, $p < .01$) show the existence of a negative impact relationship between the constructs, hypotheses 14b and 15a were not supported. Lastly, in examining the effects of avoidance (U.S.: $\beta = .204$, $p < .01$; CN: $\beta = .254$, $p < .01$), hyperarousal (U.S.: $\beta = .615$, $p < .01$; CN: $\beta = .595$, $p < .01$), impairment in functioning (U.S.: $\beta = .082$, $p < .05$; CN: $\beta = -.031$, $p > .05$), and somatization (U.S.: $\beta = .507$, $p < .01$; CN: $\beta = .435$, $p < .01$) on emotional exhaustion resulted in

Table 1. Measurement model assessment and correlations.

		[1]	[2]	[3]	[4]	[5]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
[1] PE	US data	**.789**											
	Chinese data	**.732**											
[2] EFE	US data	.708**	**.787**										
	Chinese data	.727**	**.731**										
[3] FAC	US data	.728**	.736**	**.749**									
	Chinese data	.700**	.704**	**.709**									
[4] SOI	US data	.655**	.749**	.712**	**.805**								
	Chinese data	.706**	.716**	.694**	**.743**								
[5] HEM	US data	.631**	.785**	.725**	.775**	**.784**							
	Chinese data	.695**	.672**	.685**	.727**	**.780**							
[9] AVO	US data	.617**	.503**	.554**	.537**	.510**	**.784**						
	Chinese data	.503**	.546**	.556**	.574**	.478**	**.787**						
[10] HYA	US data	.413**	.407**	.425**	.484**	.368**	.659**	**.814**					
	Chinese data	.341**	.403**	.428**	.484**	.371**	.752**	**.814**					
[11] IMF	US data	.368**	.377**	.412**	.487**	.322**	.619**	.790**	**.870**				
	Chinese data	.320**	.428**	.496**	.488**	.343**	.727**	.803**	**.832**				
[12] SMT	US data	.180**	.230**	.254**	.365**	.124*	.471**	.733**	.784**	**.897**			
	Chinese data	.113	.232**	.251**	.295**	.150**	.480**	.716**	.692**	**.894**			
[13] EME	US data	.421**	.377**	.389**	.408**	.373**	.624**	.802**	.819**	.748**	**.824**		
	Chinese data	.410**	.423**	.464**	.473**	.421**	.669**	.810**	.750**	.709**	**.849**		
[14] DEP	US data	.417**	.399**	.418**	.426**	.373**	.565**	.797**	.818**	.681**	.771**	**.835**	
	Chinese data	.357**	.434**	.459**	.456**	.343**	.731**	.744**	.740**	.792**	.721**	**.798**	
[15] ITU	US data	.769**	.732**	.711**	.729**	.752**	.534**	.420**	.426**	.377**	.471**	.424**	**.819**
	Chinese data	.680**	.710**	.638**	.727**	.716**	.546**	.483**	.476**	.289**	.479**	.531**	**.829**
CR	*US data*	*.869*	*.867*	*.792*	*.847*	*.827*	*.864*	*.907*	*.861*	*.954*	*.894*	*.902*	*.860*
	Chinese data	*.821*	*.821*	*.752*	*.787*	*.823*	*.867*	*.907*	*.818*	*.952*	*.912*	*.875*	*.868*
AVE	*US data*	*.623*	*.619*	*.561*	*.648*	*.615*	*.614*	*.662*	*.756*	*.805*	*.680*	*.696*	*.671*
	Chinese data	*.536*	*.535*	*.503*	*.551*	*.608*	*.619*	*.662*	*.692*	*.798*	*.722*	*.637*	*.688*
Mean	*US data*	*5.64*	*5.56*	*5.56*	*5.29*	*5.61*	*5.37*	*4.83*	*4.95*	*4.26*	*5.08*	*4.99*	*5.70*
	Chinese data	*5.88*	*5.77*	*5.79*	*5.60*	*5.73*	*5.52*	*5.13*	*5.33*	*4.47*	*5.34*	*5.15*	*5.84*
Std. Deviation	*US data*	*1.371*	*1.399*	*1.319*	*1.462*	*1.414*	*1.343*	*1.572*	*1.817*	*1.944*	*1.571*	*1.577*	*1.197*
	Chinese data	*1.070*	*1.068*	*1.070*	*1.107*	*1.128*	*1.146*	*1.223*	*1.369*	*1.590*	*1.285*	*1.193*	*.975*

Coefficient in **Bold**: $\sqrt{AVE}$; *p< .05 and **p< .001.

Goodness-of-fit statistics for the baseline model (US data): $\chi2 = 1840.591$, df = 836, $\chi2/df = 2.202$, $p < .01$, IFI = .928, TLI = .918, CFI = .927, RMSEA = .057.

Goodness-of-fit statistics for the baseline model (Chinese data): $\chi2 = 1740.360$, df = 836, $\chi2/df = 2.082$, $p < .01$, IFI = .932, TLI = .922, CFI = .931, RMSEA = .053.

PE: performance expectancy, EFE: effort expectancy, FAC: facilitating conditions, SOI: social influence, HEM: hedonic motivations, AVO: avoidance, HYA: Hyper-arousal, IMF: impairment in functioning, SMT: somatization, EME: emotional exhaustion, DEP: depersonalization, ITU: intention to use, AVE: Average variance extracted, CR: Composite reliability.

Table 2. Structural model evaluation and hypotheses testing.

Proposed paths			US data ($n = 377$)		Chinese data ($n = 387$)	
			β	*t*-values	β	*t*-values
Performance expectancy	→	Intention to use	.474	7.945**	.501	7.175**
Effort expectancy	→	Intention to use	.174	3.305**	.158	2.924**
Social influence	→	Intention to use	.248	4.560**	.093	1.705
Facilitating conditions	→	Intention to use	−.059	−1.130	.129	2.361*
Hedonic motivations	→	Intention to use	.275	4.916**	.227	4.094**
Avoidance	→	Emotional exhaustion	.204	4.638**	.254	5.918**
Avoidance	→	Depersonalization	.080	1.845	.377	7.754**
Hyperaurosal	→	Emotional exhaustion	.615	11.104**	.595	11.845**
Hyperaurosal	→	Depersonalization	.702	13.081**	.523	9.876**
Impairment	→	Emotional exhaustion	.082	2.174*	−.031	−.186
Impairment	→	Depersonalization	.202	5.003**	.012	.184
Somatization	→	Emotional exhaustion	.507	1.442**	.435	1.197**
Somatization	→	Depersonalization	.271	6.412**	.552	1.924**
Emotional exhaustion	→	Intention to use	.385	5.077**	−.154	−2.045*
Depersonalization	→	Intention to use	−.229	−3.204**	.382	4.632**

Variance explained of US data: R^2 for depersonalization = .613, R^2 for emotional exhaustion = .684, R^2 for intention = .766.
Variance explained of Chinese data: R^2 for depersonalization = .720, R^2 for emotional exhaustion = .609, R^2 for intention = .883.
Note: *p< .05 and **p< .001.
Goodness-of-fit statistics for the baseline model (US data): χ2 = 2482.112, df = 914, χ2/df = 2.716, p < .01, IFI = .910, TLI = .900, CFI = .909, RMSEA = .068.
Goodness-of-fit statistics for the baseline model (Chinese data): χ2 = 2452.235, df = 921, χ2/df = 2.663, p < .01, IFI = .934, TLI = .906, CFI = .933, RMSEA = .073.

Table 3. Assessment of indirect and total effect.

Indirect Path		β (*t*-values)	Lower	Upper
avoidance → emotional exhaustion → intention	US data	.078	.002	.174
	Chinese data	−.039	−.068	.000
avoidance → depersonalization → intention	US data	−.018	−.131	.015
	Chinese data	.144**	.015	.101
hyperarousal → emotional exhaustion → intention	US data	.236*	.058	.382
	Chinese data	−.092	−.099	.000
hyperarousal → depersonalization → intention	US data	−.161	−.268	.012
	Chinese data	.200**	.015	.108
impairment → emotional exhaustion → intention	US data	.032	−.098	.063
	Chinese data	.005	−.064	.002
impairment → depersonalization → intention	US data	−.046	−.239	.010
	Chinese data	.005	.006	.071
somatization → emotional exhaustion → intention	US data	.195**	.036	.195
	Chinese data	−.067	−.072	.003
somatization → depersonalization → intention	US data	−.062*	−.109	−.005
	Chinese data	.211**	.017	.091

Total impact on intention (US data): $\beta_{\text{avoidance}} = .045^*$, $\beta_{\text{hyperarousal}} = .042$, $\beta_{\text{impairment in functioning}} = -.009$, $\beta_{\text{somatization}} = .058^{**}$.
Total impact on intention (Chinese data): $\beta_{\text{avoidance}} = .025^{**}$, $\beta_{\text{hyperarousal}} = .009$, $\beta_{\text{impairment in functioning}} = .017$, $\beta_{\text{somatization}} = .026^{**}$.
Note: *p< .05 and **p< .001.
Goodness-of-fit statistics for the baseline model (US data): χ2 = 2482.112, df = 914, χ2/df = 2.716, p < .01, IFI = .910, TLI = .900, CFI = .909, RMSEA = .068.
Goodness-of-fit statistics for the baseline model (Chinese data): χ2 = 2452.235, df = 921, χ2/df = 2.663, p < .01, IFI = .934, TLI = .906, CFI = .933, RMSEA = .073.
impairment: impairment in functioning, intention: intention to use.

support for hypotheses H6a, H6b, H8a, H8b, H10a, H12a, and H12b, while H10b was not supported. The influence of avoidance (U.S.: β = .080, $p > .05$; CN: β = .377, $p < .01$), hyperarousal (U.S.: β = .702, $p < .01$; CN: β = .523, $p < .01$), impairment in functioning (U.S.: β = .202, $p < .01$; CN: β = .012, $p > .05$), and somatization (U.S.: β = .271, $p < .01$; CN: β = .552, $p < .01$) on depersonalization resulted in hypotheses H7b, H9a, H9b, H11a, H13a, and H13b being supported; hypotheses H7a and H11b were not supported. The variance of emotional exhaustion and depersonalization was explained by avoidance, hyperarousal, impairment in functioning, and somatization. Moreover, these variables explained 76.6% (U.S. sample) and 88.3% (Chinese sample) of the total variance in intention to use.

Latent indirect effect findings of the structural model were as follows. First, the results of the test based on the Chinese sample showed that avoidance → depersonalization → intention (β = .144, $p < .01$), hyperarousal → depersonalization → intention (β = .200, $p < .01$) and somatization → depersonalization → intention (β = .211, $p < .01$), with significant indirect effects between these three paths. Secondly, the results of the test conducted with the U.S. sample revealed that hyperarousal → emotional exhaustion → intention (β = .236, $p < .05$), somatization → emotional exhaustion → intention (β = .195, $p < .01$) and somatization → depersonalization → intention (β = −.062, $p < .05$), with meaningful indirect effects between these three paths. It was evident that there was a significant relationship between somatization through depersonalization and intention to use in both the U.S. and Chinese samples. Furthermore, the total effect of avoidance and somatization on intention to use (U.S.: $\beta_{avoidance} = .045$, $\beta_{somatization} = .058$, $p < .01$; CN: $\beta_{avoidance} = .025$, $\beta_{somatization} = .026$, $p < .01$) was also significant. In general, this indicates a positive significant correlation between avoidance and intention to use, and somatization and intention to use. More detailed outcomes of the data for indirect and total effects were reported in Table 3.

5. Discussion and implications

Air passenger carriers have proliferated in the previous century and have managed to connect cities around the world (Giovanelli & Rotondo, 2022). Today, with the inception of UAM, we are witnessing the beginning of another golden age of transportation as UAM offers a more personal form of travel for heavily congested cities. Urban tourists spend a great deal of time in cars stuck in traffic jams. Accordingly, the goal of this study was to evaluate behavioral predictors affecting U.S. and Chinese tourists' intention to use UAM. The study encompassed the following variables to measure tourists' perspectives: performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, avoidance, hyperarousal, impairment in functioning, somatization, emotional exhaustion and depersonalization. Consistent with the summarized outcome of the study, the prospective conceptual framework explained the influencing predominance produced by the dependent variables: intention to use UAM (88.3%), emotional exhaustion (60.9%) and depersonalization (72.0%) for Chinese tourists and intention to use UAM (76.6%), emotional exhaustion (68.4%) and depersonalization (61.3%) for U.S. tourists. The previously mentioned values display the comprehensiveness of numerous variables on tourists' behavioral eventualities.

Regarding the antecedents of intention to use UAM, our study proposed a relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, emotional exhaustion and depersonalization with the intention to use UAM in urban tourism. Performance expectancy was found to be the major antecedent (U.S.: β = .474, $p < .01$; CN: β = .501, $p < .01$), followed by social influence (U.S.: β = .248, $p < .01$; CN: β = .093, $p > .05$), effort expectancy (U.S.: β = .174, $p < .01$; CN: β = .158, $p < .01$), facilitating conditions (U.S.: β = −.059, $p > .05$; CN: β = .129, $p < .05$), emotional exhaustion (U.S.: β = .385, $p < .01$; CN: β = −.154, $p < .05$), depersonalization (U.S.: β = −.229, $p < .01$; CN: β = .382, $p < .01$) and hedonic motivations (U.S.: β = .275, $p < .01$; CN: β = .227, $p < .01$).

The goal of this study was to identify the domains that determine tourists' intention to use UAM in urban tourism. Our research displayed that performance expectancy affects tourists' intention toward UAM, as tourists highly value the utility of UAM as a mode of transportation. Particularly, UAM can solve the issue of heavily congested ground urban transportation by creating a third dimension for urban traffic and offering efficient city travel. Accordingly, performance expectancy's positive influence on intention to use UAM is guided by comprehensive mobility benefits (S. S. Ahmed, Fountas, Eker, & Anastasopoulos, 2021), faster business travel, convenient short-distance leisure travel and avoidance of traffic congestion for trips to and from the airport (Kloss & Riedel, 2021). Furthermore, perceived usefulness, which is the foundation of performance expectancy (Venkatesh et al., 2003), proved to be the dominant determinant of user behavioral intention among factors affecting consumers' acceptance of UAM (Yavas & Tez, 2023).

Regarding social influence, our study demonstrated that U.S. tourists believe UAM offers important value to society as UAM could not only eliminate the spatial barriers between downtown tourist locations and suburban areas but could also offer exciting possibilities in expanding one's milieu as tourists can share rides in UAM. Thus, in the case of U.S. tourists, UAM offers synergetic travel experiences that are imperative to support democracy in society. However, this study also uncovered that social influence did not have a positive effect on Chinese tourists' intention to use UAM. This is probably due to the UAMs' sociopolitical potential to expend economic inequality, as Chinese tourists perceive that only upscale consumers would be able to benefit from the hyperseclusion and hyperaccess offered by UAM. These findings are in line with a recent study by Ariza-Montes et al. (2023), who outlined that the intention to use UAM among Americans is positively and significantly impacted by social influence. Nevertheless, UAMs are still prototypes and not yet utilized in urban tourism. Once UAM becomes commercially available, social influence will play a more important role in the early stage of UAM adoption (Eker, Fountas, Anastasopoulos, & Still, 2020; Finney, 2022).

With regard to the effort expectancy, our study showed that tourists hold firm beliefs about how features such as vertical takeoff and landing combined with automated driving based on artificial intelligence make UAM quite easy to use. Thus, UAM offers a straightforward and faster commute experience in traffic-clogged cities. Our study findings reflect the earlier findings of Jang (2022), who argues that UAMs' autonomous flight combined with sensor-related technology offers an easy-to-use and, above all, safe way of avoiding urban traffic congestion. Accordingly, UAM air traffic management (ATM) architecture could provide much-needed safety utility that establishes control and

authority between vertihubs that manage each UAM vehicle in their local airspace (Bharadwaj et al., 2021). UAMs' ease of use is also related to their minimum dependency on supporting ground infrastructure (Pan & Alouini, 2021). Concerning the influence of facilitating conditions on U.S. and Chinese tourists' intention to use UAM, our study revealed that U.S. tourists have greater concerns in regard to existing policies and regulations, safety requirements, city turbulence issues, energy consumption and UAM-associated infrastructure, including landing pads, which leaves them with the impression of a 'Wild West' and even a negative outlook on the impact of existing facilitation conditions on UAM adoption. On the other hand, Chinese tourists believe that air traffic management systems will address safety concerns and that government support will offer favorable regulations and subsidies for costly infrastructure advancements and supportive technological infrastructure, which will, in return, fuel the expansion of UAM adoption. Thus, our study findings in the case of Chinese tourists mirror the concept put forward by Zhang (2022), who outlined the paramount importance of government involvement in providing facilitating conditions for the development and adoption of UAM. Koumoutsidi et al. (2022) argue that municipalities, policymakers, responsible authorities, private organizations and public bodies should concentrate on increasing public awareness and maximizing social acceptance in order to demonstrate that progress is not inevitable and that rapid technological advancements must be worked toward.

Our research exhibited that U.S. tourists experience emotional exhaustion during traffic congestion, positively affecting their intentions toward UAM adoption. Conversely, this study also showed that in the case of Chinese tourists, emotional exhaustion negatively affects the intention to use UAM. This finding is related to skepticism that traffic congestion could be improved by UAM, as airspace, if not managed adequately, could be congested considerably more swiftly than a roadway. Nevertheless, as there is a belief that the sky has almost limitless capacity, tourists who utilize UAMs could take off and land without runways and almost completely avoid traffic congestion-related emotional exhaustion. Consequently, emotional exhaustion's positive influence on the intention to use UAM is steered by apathy, depression, irritability, anger and hopelessness due to traffic congestion and lost time (Eker, Fountas, & Anastasopoulos, 2020; Nadrian et al., 2019).

Regarding depersonalization, our study displayed that Chinese tourists experience depersonalization during traffic congestion, which positively affects their intention toward UAM adoption. Conversely, this study also showed that in the case of U.S. tourists, depersonalization negatively affects the intention to use UAM. This finding means that depersonalization due to traffic congestion could extend beyond the roadway to the sky. As the human mind works holistically, it appears that when U.S. tourists are trapped in traffic congestion, the feeling of depersonalization is overwhelming, and even autonomous UAMs are not able to change the overall perception of traffic congestion. Even so, in reality, commuting via UAM equipped with high-tech safety features at high speed will improve travel time by avoiding traffic congestion and its implications on the feeling of depersonalization. Depersonalization's positive impact on the intention to use UAM is guided by feelings of not being in control, time being distorted and being lost in one's surroundings due to traffic congestion (Chen & Hsu, 2020). Lastly, our study confirmed that hedonic motivations positively impact the intention to use UAM. As

UAM represent a technological pinnacle in eradicating spatial-temporal distances in cities, tourists are eager to 'cut the chains of gravity.' Thus, UAM offers a technological vision of pleasure and excitement with flawless comfort and efficiency, bringing all-inclusive welfare benefits. Our study findings echo Duwe and Sprenger (2019), who outlined that the acceptance of UAM is related to the pleasure of enjoying innovation.

In regard to the antecedents of emotional exhaustion and depersonalization, our study suggested the relationship between avoidance, hyperarousal, impairment in functioning and somatization with emotional exhaustion and depersonalization affects the intention to use UAM. Hyperarousal was the most substantial antecedent (emotional exhaustion, U.S.: $\beta = .615$, $p < .01$; CN: $\beta = .595$, $p < .01$; depersonalization, U.S.: $\beta = .702$, $p < .01$; CN: $\beta = .523$, $p < .01$), followed by somatization (emotional exhaustion, U.S.: $\beta = .507$, $p < .01$; CN: $\beta = .435$, $p < .01$; depersonalization, U.S.: $\beta = .271$, $p < .01$; CN: $\beta = .552$, $p < .01$), avoidance (emotional exhaustion U.S.: $\beta = .204$, $p < .01$; CN: $\beta = .254$, $p < .01$; depersonalization, U.S.: $\beta = .080$, $p > .05$; CN: $\beta = .377$, $p < .01$), and impairment in functioning (emotional exhaustion, U.S.: $\beta = .082$, $p < .05$; CN: $\beta = -.031$, $p > .05$; depersonalization, U.S.: $\beta = .202$, $p < .01$; CN: $\beta = .012$, $p > .05$).

Our study proved that tourists trapped in traffic congestion experience hyperarousal, which affects them so that they feel depressed, fatigued, angry and detached from their surroundings. Thus, our study supports the findings of Albalate and Fageda (2021), who outlined that traffic congestion causes hyperarousal in certain individuals, which leads to physical fatigue, apathy, headaches and derealization (Ma et al., 2018). Furthermore, this study's findings exhibited that during traffic congestion, tourists suffer somatization in the form of elevated distress about physical symptoms and abnormal feelings. Somatization's positive influence on emotional exhaustion and depersonalization is guided by a traumatic experience (Erdener et al., 2021). A traumatic experience due to traffic can manifest in symptoms such as headache, insomnia, agitation, depersonalization and derealization (Costa et al., 2018). As to avoidance, our study demonstrated that traffic congestion is a traumatic experience for Chinese tourists, causing them to go through mood changes such as disengagement and lack of interest toward pleasurable recreation. However, this study also showed that in the case of U.S. tourists, avoidance did not have a positive impact on depersonalization. This is most likely because U.S. tourists come from a society founded on a mixture of democratic capitalism and socialism, with a shared belief that people are in control of their lives. Accordingly, our study finding is supported by Sierra (2009) and Ariza-Montes et al. (2023), who argue that in the case of UAM adoption, the avoidance impact of depersonalization can be diminished by an effective social communication strategy that boosts public confidence and lessens the fear of novel technology.

Lastly, our study showed that when stuck in traffic jams, U.S. tourists experience impairment in functioning that leads to other mental health disorders such as depression, feelings of hopelessness, apathy, and depersonalization. This finding is supported by Beland and Brent (2018), who outlined that traffic congestion causes various negative mental health outcomes, such as impairment in functioning, irritability, irrational anger and depersonalization. Conversely, this study also showed that Chinese tourists do not experience impairment in functioning when they find themselves in traffic congestion. This is most likely because Chinese travel in groups; thus when they experience traffic-

related stressful situations such as traffic congestion, they comfort each other, so the social support helps them perform daily tourist activities and not suffer emotional exhaustion and depersonalization.

5.1. Theoretical implications

Firstly, this study intended to examine the prospective conceptual framework between U.S. and Chinese tourists' perception of technology adoption constructs and their psychological perception of traffic congestion and how both perceptions may affect their behavioral intention to use UAM. More precisely, conceptual framework variables were drawn from Venkatesh et al. (2012) modified UTAUT 2, the Maslach Burnout Inventory (Maslach & Jackson, 1981), SASRQ (Cardeña et al., 1991) and BSI (Derogatis, 1975), and their influence on behavioral intention to use UAM were examined. Respectively, the proposed model explains 76.6% (U.S. tourists) and 88.3% (Chinese tourists) of the variance in intention to use UAM. Moreover, emotional exhaustion (which explained 68.4% of the variance for U.S. tourists and 60.9% of the variance for Chinese tourists) and depersonalization (which explained 61.3% of the variance for U.S. tourists and 72.0% of the variance for Chinese tourists) had robust explanatory power for tourists' intention to use UAM. Thus, this study showed that the modified UTAUT 2 presents a considerable advancement in explaining variance in behavioral intention in comparison to Venkatesh et al. (2012) original UTAUT 2 (76.6% and 88.3% versus 74%).

Secondly, this study can be deemed as a trailblazing endeavor to include tourists' psychological perception of traffic congestion as a determining factor along with performance expectance, effort expectancy, social influence, facilitating conditions and hedonic motivations in influencing the intention to use UAM in the U.S. and Chinese contexts. Companies across the world are diligently working on innovative solutions for the global introduction of the first-ever commercial UAM. Several previous studies discussed the perception of UAM adoption (S. S. Ahmed, Fountas, Eker, & Anastasopoulos, 2021; S. S. Ahmed, Fountas, Eker, Still, et al., 2021; S. S. Ahmed et al., 2020; Duwe & Sprenger, 2019; Eker, Fountas, & Anastasopoulos, 2020; Eker, Fountas, Anastasopoulos, & Still, 2020; Eker et al., 2019; Jang, 2022; Kasliwal et al., 2019; Pan & Alouini, 2021; Mofolasayo, 2020; Saeed et al., 2021); however, none of those studies were in the context of tourism. Furthermore, none of the preceding research investigated the nexus between the Maslach Burnout Inventory (Maslach & Jackson, 1981), SASRQ (Cardeña et al., 1991), BSI (Derogatis, 1975) and Venkatesh et al. (2012) UTAUT 2 in terms of tourists' intention to use UAM. Our results reveal that tourists' emotional exhaustion (in the case of U.S. tourists), depersonalization (in the case of Chinese tourists), performance expectance, effort expectancy, social influence (in the case of U.S. tourists), facilitating conditions (in the case of Chinese tourists) and hedonic motivation have a significant and positive influence on the intention to use UAM. Hence, this study's results will help succeeding studies acknowledge additional constructs and genuinely understand tourists' intentions.

Thirdly, this research suggests the antecedents of tourists' emotional exhaustion and depersonalization under the influence of traffic congestion in an innovative, credible way founded on the present-day outlook of urban traffic. Specifically, this study shows that emotional exhaustion and depersonalization are influenced by avoidance (depersonalization, in the case of Chinese tourists), hyperarousal, impairment in functioning (in the case of U.S. tourists) and somatization, as traffic congestion can cause acute stress that negatively affects tourists' mental health. Thus, this study provides a theoretical foundation for a fresh view of the Maslach Burnout Inventory by suggesting that in the context of urban tourism and traffic congestion, avoidance, hyperarousal, impairment in functioning, and somatization are powerful drivers of tourists' emotional exhaustion and depersonalization.

Fourthly, this study introduced the use of the concepts in the Maslach Burnout Inventory (Maslach & Jackson, 1981), SASRQ (Cardeña et al., 1991) and BSI (Derogatis, 1975) in the context of tourism and urban mobility. Thus, this study puts forward a theoretical foundation for the use of the aforementioned concepts in a new perspective, showing that Maslach Burnout Inventory constructs can be used in areas other than workplace contexts. Likewise, this study also demonstrates that SASRQ and BSI can be used in the case of urban tourism, as traffic congestion can cause acute stress that negatively affects the mental health of urban tourists.

5.2. Practical implications

This study is among the earliest to explore tourists' perceptions in relation to the intention to use UAM. Due to the negative impact of traffic ground congestion, tourists highly value the benefits of UAM as a mode of transportation. Accordingly, marketing efforts should focus on UAM's utility in solving the real-life issue of heavily congested ground urban transportation. Furthermore, UAM manufacturers, UAM ride-sharing service providers, city council, policymakers and transit administration should work jointly to create a UAM ecosystem that would provide universal public welfare. Thus, by creating a third dimension for urban traffic, the UAM and urban mobility stakeholders would mitigate traffic congestion and enhance city travel.

Low-altitude intelligent autonomous transportation in the form of UAM is a promising mode of transportation that offers a straightforward, faster tourist travel experience in traffic-congested cities. However, UAM should not deepen social inequality as shared tourist experiences are of paramount importance to sustainable development. Thus, the government and transit administration must play an active role in creating incentive mechanisms for UAM service providers to create affordable ride-sharing options that would enhance UAM adoption. In that way, the issue of scale would be solved as UAM would not be exclusively for tourist elites, and UAM would have outstanding potential in mitigating traffic congestion and commute time for all urban tourists. Furthermore, UAM manufacturers, city councils and UAM ride-sharing service providers should create a roadmap toward equitable provision of UAM as that would pave the way toward universal commuter benefits. This could be accomplished by UAM manufacturers and UAM ride-sharing service providers financing the initiation and construction of UAM infrastructure while city councils and policy regulators create clear and workable policies that support innovation. In this way, the UAM ecosystem

would become sustainable as UAMs would offer tangible public good, and potential negative political and environmental effects would be mitigated. UAM manufacturers and city councils would have to look into innovative ways to enhance UAM batteries; city councils would have to provide public clean energy fast charging stations, and UAM manufacturers would have to work on innovative ways to reduce the weight of current batteries and expand their storage capacities.

As UAM offers a technological vision that promises the pleasure and excitement of flawless commuting comfort and travel efficiency, city councils and UAM ride-sharing service providers should create app-based UAM ride-sharing services that are connected to social media so tourists can share the pleasure of participating in technology. However, city councils and UAM ride-sharing service providers should create a joint act on preserving pristine land so the potentially negative environmental impact of over-tourism is mitigated, as UAM will certainly break the limitations of distance and travel time. Moreover, city councils and transit administrations will have to create advanced air traffic control systems and procedures so that tourist concerns related to potential air traffic congestion are adequately addressed. In that case, the sky could offer additional traffic space with sustainable capacity, where tourists who experience emotional exhaustion due to ground traffic congestion would enjoy UAM's important benefits. Likewise, for tourists who experience depersonalization due to ground traffic congestion, UAM ride-sharing service providers can reduce distance and time constraints, which are always impediments to pleasurable tourist experiences.

5.3. Limitations and future research

This study comes with certain limitations; nevertheless, those limitations are pathways for future research. The first limitation is the conceptual framework, as our research is based on particular conceptual elements and theory from Venkatesh et al. (2012) UTAUT 2 and Maslach and Jackson's (1981) Maslach Burnout Inventory. Even so, our study demonstrated that UTAUT 2 can be modified to permit the incorporation of other conceptual elements and ideas. Accordingly, forthcoming studies should use additional conceptual elements that can act as antecedents of the UTAUT2, are applicable to the tourism industry, and are harmonious with this model. Similarly, urban tourists can use UAM for other reasons that are not related to traffic congestion. Thus, future studies should include other constructs that can motivate the use of UAM in urban tourism. The second limitation is the questionnaire itself. In this study, we employed a self-administered online survey. Ergo, on account of potential self-response bias, a particular level of circumspection has to be used in generalizing the conclusions of this research. The questionnaire was formulated and validated based on the procedural methods set forth by Jordan and Troth (2020) to lessen the possible influence of self-response bias. The third limitation is the research design, which was cross-sectional. Thus, as Dowker et al. (2019) argue in such studies, casual relations among variables cannot be confirmed, group effects are not perceptible, and frequencies are not resolved. Upcoming analyses could utilize a longitudinal study design to surpass this limitation of the current study. The fourth limitation is potential cultural differences between U.S. and Chinese tourists and their adoption of UAM, which was not the scope of this study. However, we hope that we have opened new horizons for future studies to test the

potential relationships between various cultural dimensions among U.S. and Chinese tourists adoption of UAM based on well-known theories. Such forthcoming studies would provide new pathways that could certainly expend current academic knowledge and fill in academic literature gaps on potential discrepancies.

6. Conclusion

From time immemorial, humans have dreamed about flying. The conceptualization of human flight can be traced back to cave paintings and ancient myths. Once Nicolas Cugnot invented the car and the Wright brothers completed their first successful flight, the inception of UAM was implanted in human minds. Today, UAM technology is celebrated by many people, including tourists, as it is expected to create the ultimate freedom in mobility. The study described here outlined a unique solution to city traffic congestion in the form of UAM. Furthermore, our study provides key factors that shape U.S. and Chinese tourists' willingness to adopt UAM while demonstrating that UAM is a promising mode of transportation that offers straightforward, faster commutes for tourists in traffic-clogged cities. If aeroplanes managed to connect our planet in the last century, perhaps UAM could reconnect tourists with local communities in this century.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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