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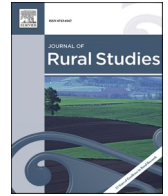
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The online portrayal of urban farmers: Professionals' perspectives on their influence on constructing farming-career paths

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ABSTRACT

This research extends existing studies on the role of alternative food movements in supporting new farmers. It focuses on the urban agriculture movement, particularly the online portrayal of urban farmers in social media, and its impact on constructing farming-career paths. Analyses explore the perspectives of professionals (N = 32) involved in urban farming initiatives (practitioners, policy professionals, and beginning urban farmers) in Pennsylvania and Illinois. The study uses qualitative thematic coding and aggregates the theoretical dimensions supported by contemporary career theories. Career aspiration, career intention, and career orientation are the career-construction paths that are the interests of the study. Findings suggest that portrayals of urban farmers are multi-faced: "smallness," "diversity," "guidance by moral values," "innovativeness," and "popularity" are the essential themes explaining farming-career aspirations. Farming-career exposure and career experiments via social media are values that drive planned or unplanned career intentions. The portrayal of urban farmers as moral achievers is perceived as a motivator in career orientation by activating relationally driven (inspirations gathered from online relationships) and protean (self-driven) attitudes. Overall, our study demonstrated that online portrayals of urban farmers can shape perceptions about careers within sustainable sectors, including agriculture-related professions.

1. Introduction

Within the agrarian literature to date, the generational renewal problems highlight the difficulties of attracting new people who are able or willing to be involved in farming careers (Szymkowiak and Rhodes-Reese, 2022). A long-term trend of aging among farmers continues, and the proportion of them near or nearing retirement age is increasing in the U.S. According to the most recent data, the average American farmer is 58.1 years old, and those between the ages of 35–64 show a declining trend, while the number of producers aged 65 and over continually increased between 2017 and 2022 (USDA, 2022).

The generational renewal problems in farms bring important challenges, such as farm resilience with an ongoing massive shift in land-ownership. Historically, the crisis is linked to an out-migration trend that began decades ago, with an increasing number of youths migrating from rural to urban and suburban areas (Hottel and Berry, 1978). The

out-migration from rural areas not only led to a lack of new entrants into farming as a profession but also contributed to misconceptions about agricultural careers, which has been exacerbated by increasing urbanization (Murrah-Hanson et al., 2022). Given these trends, increasing the interest of youth in farming careers is an important first step for the future of the agricultural workforce (Pinkerton et al., 2021).

Nevertheless, these misconceptions about agricultural careers should not be equated with a lack of interest in the agri-food sector among youth. As documented by social movement studies, the young generation is increasingly involved in agroecology and agri-food movements, and protests against the current industrial-agricultural system are growing (Fernández-Planells et al., 2021). Alternative food movements (e.g., urban agriculture, organic farming, and local food movements) reflect a growing wave of civic engagement, driven by the request for a shift toward more ecological and non-industrial agricultural practices (Weissman, 2015). The increasing waves of protest behavior among the

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younger generation present a shift toward more voluntary support and better organization compared to previous generations (Dorn et al., 2021; Ramsey, 2021).

Given these parallel trends of continual generational renewal problems in agriculture and the rise of interest in agri-food systems among youth via social movements, an important question is to what extent alternative food movements—recognized for their civic engagement initiatives—help young people become interested in careers in farming. This broad question can be addressed by examining the *online* and *offline interaction dimensions* of alternative food movements and their role in career construction.

Regarding the *offline interaction dimension*, recent studies that investigate farm entry behavior documented empirical findings on the inspiring role of alternative food movements in motivating individuals to consider farming as a career when the decisions are driven mainly by social, environmental, and political values (Iles et al., 2023; Inwood et al., 2013; Weissman, 2015). For example, the study by Bruce (2019) reveals three types of new entrants into alternative agriculture. In addition to the “legacy farmers,” who transition conventional farms into alternative enterprises, the group of first-generation farmers has two types of new entrants: “greenhorn farmers” and “returning farmers,” who were inspired by the alternative food movements and consider farming as a full- or part-time job. Overall, alternative food movements play a role in the farming-career-construction paths by providing training opportunities (e.g., internships and apprenticeship programs), and career progression with network accessibility (Bruce, 2019; Iles et al., 2023; DeLong et al., 2023).

For the *online interaction dimension* of alternative food movements, previous research has reported that the internet played a crucial role in legitimizing alternative food movements (Press and Arnaud, 2011) and reshaping the public perception of farming by redefining the image of farmers (Dewey, 2017; Unay-Gailhard and Simoes, 2022; Unay-Gailhard et al., 2023). As argued by Press and Arnaud (2011), apart from the technical part, the internet is a specific kind of modality of cultural transmission, and it has built legitimacy for alternative food systems (e.g., Community Supported Agriculture programs, CSA) by promoting more personalized commercial communications.

However, with the exception of a few studies (Unay-Gailhard and Brennan, 2022; Iles et al., 2023; DeLong et al., 2023), the contribution of digital media to constructing farming-career paths is not adequately explored. According to Unay-Gailhard and Brennan (2023), the social media accounts, especially those run by individuals, create an environment where career ideas can develop and where viewers can gain the self-confidence needed to pursue career intentions. A study by Iles et al. (2023) found that the career paths of most small- and medium-sized new farmers largely depend on self-directed internet searches. These farmers often use online information to start and sustain their farming operations. Additionally, research by DeLong et al. (2023) presents the narratives of first-generation farmers who reported experiencing a spark of inspiration from the internet via online courses and/or YouTube videos. These recent studies emphasize the significance of sharing lifestyles, experiences, and values through social media, which can inspire a career in farming. Most notably, they underline the need for a better understanding of how online communication influences the farming-career paths—a topic that has not been thoroughly explored in the existing literature.

The *online interaction dimension* of alternative food movements is the focus of this study, which seeks to fill this research gap by exploring how digital communication distinctly influences the construction of farming career paths. To more profoundly explore the relationships, and to enhance the clarity, we narrowed down the study focus and investigated one of the important alternative food movements: the urban agriculture movement.

In terms of online communication needs, one of the main particularities of urban agriculture network actors is that they represent a population with an increased interest in farming yet with a decreased

transfer of intergenerational family knowledge. The importance of the urban agriculture movement on young farmers' career paths is supported by a recent U.S. National Young Farmers Coalition report, through both the providing of career narratives, as well as the survey (in which the respondents are age 40 and under) results themselves. It is reported that young farmers are motivated by environmental conservation, anti-racism, and social justice topics, and, nationwide, 31% of young farmers are located on suburban land, including home gardens, urban land, and community gardens, respectively (Ackoff et al., 2022).

Within this given background, this study's analysis is based on in-depth interviews with professionals (practitioners, policy administration professionals, digital communicators from urban agriculture initiatives, and beginning urban farmers) in Pennsylvania and Illinois. As part of the larger project, this study addresses the following research question: *What narratives from professionals illustrate how online portrayals of urban farmers alter perceptions of the farming profession and influence farming-career paths?*

The paper is organized as follows: In the next section, we provide background information on the main dimensions defining the features of urban agriculture and the reviewed studies in the area of the online dimensions of urban agriculture engagement. Next, we outline the study framework with theories that inform the research. We then provide the data and methodology, followed by the study findings. Finally, we discuss the study findings with concluding remarks.

2. Background

2.1. Key dimensions of urban agriculture: diversity, connectedness, and multifunctionality

Urban agriculture is defined as the “cultivation, processing, and distribution of agricultural products (food or non-food) in urban and suburban areas” by the USDA (2024), and is considered a growing industry with a long historical background in which the cultivation of agricultural products in cities goes back to the 1800s in the U.S. (Rangarajan and Riordan, 2019).

Three main dimensions define the features of urban agriculture. The first is *diversity* in urban agriculture sites, which includes community gardens, school gardens, commercial urban farms, individual gardens, institutional gardens, fair-trade food-producer cooperatives, rooftop gardens, gardens with specific accessory structures (e.g., greenhouses, nurseries, garden sheds), horticulture, animal husbandry (e.g., bees, poultry), agroforestry, mushroom farming, insect farming, aquaculture, hydroponics, and aquaponics (Cohen and Reynolds, 2015; Dorn et al., 2021; Goldstein et al., 2016; Hodgson et al., 2011).

The second dimension is the *connectedness* of urban agriculture to agri-food processing and distribution, which enlarges urban agriculture networks with urban farmers' markets, food co-ops, and initiatives committed to sustainable food production, distribution, and consumption in and around cities, such as CSA initiatives, as well as other farm-to-restaurant, farm-to-chef, garden-to-café, and food-to-school linkages (Das and Ramaswami, 2022; Jarosz, 2008).

The third dimension is related to *multifunctionality* of urban agriculture guided by social (e.g., educational, health, and community development), environmental (e.g., composting and agro-ecology identity), political (e.g., social justice activism, food activism surrounding solutions to food deserts, and food justice), and economic values (e.g., promoting green jobs and urban food sales at specific places; Ayuk, 2021; Diekmann et al., 2020; Fifolt et al., 2018; Cohen and Reynolds, 2015; Russ and Gaus, 2021; Pradhan et al., 2023; Prové et al., 2019).

2.2. Integrating education into urban agriculture initiatives

Over the past decade, the municipal urban agriculture policies in the U.S. have aimed to regulate and support urban agriculture projects with

emerging policies across different cities (Halvey et al., 2021). Education is one of the commonly addressed topics in municipal urban agriculture policies, with programs on growing food for the general public, vocational training in an urban agriculture practice, and youth-focused urban agriculture education within the objectives of positive youth development, which comprises the gaining of new skills for example, leadership, management, and public speaking (Halvey et al., 2021).

Some urban agriculture education programs have the intention of contributing to career paths in sustainable and green industries seen as pro-social (Das and Ramaswami, 2022; Dimitri et al., 2016; DeMarsh, 2022; Fifolt et al., 2018), pro-environmental (Ceaser, 2012; Halvey et al., 2021; Schneller et al., 2022; Murrah-Hanson et al., 2022), and pro-political intentions and behaviors (Russ and Gaus, 2021; Weissman, 2015; Sonti et al., 2016; Reed & Keech, 2018). Education in urban agriculture sites has been found to provide an experience-based education in farming with an emphasis on ecojustice knowledge and a fostering of ecological citizenship, as well as an involvement in green projects and/or climate advocacy initiatives, and increased awareness of career interests through career exposure to agri-food sectors (Fifolt et al., 2018; Murrah-Hanson et al., 2022; Schneller et al., 2022; Travaline and Hunold, 2010).

2.3. The role of urban agriculture engagement in career development

Previous studies that give insights into the role of urban agriculture engagement and its positive influence on career construction in agriculture can be categorized into two research areas. The first is the shift in the *misconceptions in the farming profession* as an outcome of urban agriculture engagement. According to Fontanier et al. (2019), urban students are becoming increasingly disconnected from their agricultural origins, leading to a lack of awareness about agricultural careers. The authors argue that urban horticulture programs can address this by offering background knowledge and hands-on practical experiences. The study by Murrah-Hanson et al. (2022) evaluates an educational program for youth that includes visiting an urban agriculture site. Based on the narratives of the program participants, the authors conclude that sector-focused programs offer youths the chance to explore careers and increase awareness and interest in agricultural careers. Longer-term summer urban agriculture programs also influence perceptions of the farming profession among African-American high school students, as reported by Pierce et al. (2017). Weissman (2015) quotes a leader from an urban farm project, who summarizes the mission of the studied urban agriculture site (Brooklyn-based, New York), where the primary aim is critical thinking on the agri-food system. The career impact in the farming profession is considered a secondary aim.

The second is the *involvement of agricultural careers* as an outcome of urban agriculture engagement. Studies by Travaline and Hunold (2010), Mize (2012) and Dalton and Sharkey (2016) are a few bodies of research highlighting explicitly the farming-career involvement effect of urban agriculture programs. The authors highlight how learning urban farming with urban ecological citizenship creates careers as full-time farmers (Travaline and Hunold, 2010) or employees in urban farming initiatives that aim to increase healthy food access (Mize, 2012; Dalton and Sharkey, 2016). Kaufman and Bailkey (2000) share the narratives from different urban agriculture sites where the leaders express that their urban agriculture mission not only is educational but also helps to pursue agricultural careers such as nursery work, horticulture, landscaping, or organic farming or to prepare individuals for careers in green industries.

According to Sonti et al. (2016), a study on the long-term impact of an urban farming youth internship indicates that the effects of urban agriculture programs on career behaviors has not yet been well-established. Our study answers this call and focuses on the topic's digital-geography dimension.

3. Study framework

3.1. The interconnectedness between urban and rural areas through media

The interconnectedness between urban and rural areas is often seen as a multidirectional flow of people, goods, services, capital, and knowledge. In this study, the interconnectedness of urban-rural through media representations serves as a backdrop for exploring how urban agriculture initiatives may change the perceptions towards agriculture careers and shift the balance for the generational renewal problems in the agriculture sector in rural areas. The focus is on the online representation of urban farmers, highlighting how these portrayals help urban and peri-urban residents reconnect with careers in the agriculture sector. This study assumes that the online portrayal of urban farmers who create rural-urban linkages might have the potential to alter the perceptions of the farming profession through their ability to highlight the values, attitudes, and beliefs attached to urban agriculture initiatives.

The concept of urbanormativity is used to analyze traditional media representations of urban-rural contexts, highlights how societal norms often prioritize urban lifestyles and values over those of rural communities, and suggests that urban life is frequently viewed as the ideal while rural life is depicted as inferior (Fulkerson and Thomas, 2019). The traditional media plays a significant role in reinforcing these urban-centric standards by portraying rural life in a way that emphasizes its shortcomings compared to urban settings, usually framing rural communities from an urban perspective. For example, McKay's (2016) study of newspaper coverage of rural life reveals that rural communities face challenges conveying their own stories through news articles. Instead, their narratives are often shaped by urban-based newspapers that have a broader readership.

With the rise of new media, representations of the interconnectedness between urban and rural areas have transformed as connections around pastoral values in rural and urban areas intensified. Particularly, the online presence of alternative food movements adds a new dimension to this interconnectedness. These movements create a widespread alternative to the commercial food system through online portrayals. Alternative food movements, such as CSA, leverage the Internet's ability to distribute power more equitably than traditional media by utilizing personal and targeted communication to share first-person stories that promote key values about pastoralist beliefs and engage users, as documented by Press and Arnould (2011).

These conceptual frameworks serve as a structure that guides our research on new media and the evolving dynamics introduced by urban agriculture movements. By analyzing the online portrayals of urban farms, this research aims to provide nuanced insights into how these representations can influence farming-career construction paths.

3.2. Contemporary career theories informing the study

Guided by contemporary career theories (Guan et al., 2019; Modestino et al., 2019; Rodrigues et al., 2019), this study focuses on career construction within three facets: career aspiration, career intention, and career orientation.

Career aspiration refers to essential motivational variables shaped by intrinsic and extrinsic factors, career expectations, and perceived career development (Barhate and Dirani, 2022). Career aspirations encompass individuals' goals and choices related to their careers and play an important role in guiding their career decision-making. Understanding the factors that influence career aspirations facilitates successful career outcomes. Research suggests that social media, with its influencer models, images, and symbols, can significantly influence individuals' academic, professional, as well as career aspirations by exposing a range of possibilities for their future selves (Fukubayashi and Fuji, 2021; M. Brown et al., 2022; O'Connor et al., 2022).

Both predictable/planned and unpredictable/unplanned events are included in the **career intention** path of an individual (Modestino et al., 2019). The planned career path defines a traditional trajectory with educational or advanced progress over a career. The unplanned career path represents paths where there is no particular career trajectory in an individual's mind, even though their career path advances through opportunities arising throughout their life. In our study, the definition of a career intention considers how career exposure and career experimentation reflect the planned and unpredictable nature of careers.

The **career orientation** literature highlights the association of youth with career orientations that are relationally driven and also driven by protean (self-driven) attitudes (Boyle, 2022; Guan et al., 2019). The relationally driven career orientations refer to the inspirations gathered from meaningful relationships with others such as family members, friends, and mentors. The protean (self-driven) orientation includes both a value-driven attitude and self-directed career management and is defined by an ability for personal management of one's career based on self-awareness and intrinsic motivations. It implies that a person strives for self-fulfillment and can use their identity to guide career decisions (Volmer and Spurk, 2011). This study defines career orientation as "career preferences that result from the unilateral or reciprocal online relations with others (orientation via online relational values), intersections with one's self (orientation via protean or self-driven personal values)." Given contemporary career theories, we have built the study framework, as illustrated in Fig. 1.

4. Data collection and analysis

4.1. Data collection

The analysis is based on in-depth interviews with professionals in Pennsylvania (Pittsburg, Philadelphia and State College) and Illinois (Chicago and Champaign). Both states have vibrant urban and peri-urban agriculture sites with commercial and non-commercial initiatives and provide an appropriate structure for understanding the perspectives of professionals involved in urban agriculture.

The data collection and research design includes the following steps:

The development of an inventory of actors involved in urban farming initiatives, including urban agriculture practitioners, engaged public officials, and urban farmers, comprised the first stage of our sampling strategy. The list of actors for the inventory was drawn from consultations with agricultural extension networks, a review of websites, and social media accounts. Inventory developing and snowball sampling were used to reach key informants and urban farmers.

An interview protocol was developed by addressing the core research question on the contribution of digital media toward career aspirations of farming as a profession. Open-ended questions purposefully guided the interview protocol to provide a space for a general

discussion about the general situation. Interviewers were asked to participate in semi-structured in-depth interviews via e-mail invitations.

Key informant interviews (N = 28; 15 from Pennsylvania, and 13 from Illinois) were conducted with two groups of experts: i) professionals involved in urban farming initiatives at the urban agriculture sites (N = 22), (e.g., directors, outdoor lecturers, farm workers in community gardens, practitioners from institutional gardens, school gardens, container gardening, rooftop gardening, greenhouses, and hydroponic systems) and ii) policy administration professionals with knowledge, and experience to communicate about the urban agriculture initiatives (N = 6) (e.g., policy directors at the Department of Agriculture, and professionals from the advisory committee for urban agriculture, and from food policy councils).

A purposive sampling method was employed to ensure diversity within the sampling framework. The primary aim of this sampling strategy is to identify and select professionals who can offer insights into school-based urban agriculture initiatives, such as those working at urban farms and farmers' markets operated by universities and high schools. It also includes professionals involved in community-based urban agriculture initiatives, including those employed by government agencies, agricultural extension networks, NGOs, and community gardens. This approach aims to capture a variety of perspectives from different urban agriculture initiatives. The community-based urban agriculture initiatives differ from school-based initiatives concerning target populations and their overall goals. While school-based educational initiatives support individuals during their schooling period (e.g., ending with a diploma or graduation), community-based ones support individuals during and after their schooling periods as a vehicle for life-long learning.

A common interview protocol guided the semi-structured interviews, which began by asking for general information on urban farming programs and their social media presence (Part 1). The interview was followed up with questions on the use of digital-communication tools to support urban agriculture activities (Part 2) and ended with insights from professionals' perspectives on the portrayals of urban farming activities on social media as an inspiring career aspiration (Part 3).

Beginning urban farmers interviews (N = 4, 2 from Pennsylvania, and 2 from Illinois) were conducted with farmers who had been operating commercial farms in urban and peri-urban areas for less than 10 years. The biographical narrative approach was used to explore the particularities of lived experiences with a single question that aimed to reveal their career stories (Part 1). The interviews were followed by open-ended questions to explore the role of digital communications in their career development paths and to listen to their perspectives about the extent to which they think the portrayals of urban farmers in the media impacted their career pathways (Part 2).

The interviews featured various agricultural professionals, including a vegetable grower, a beekeeper, a hemp CBD farmer, and an organic

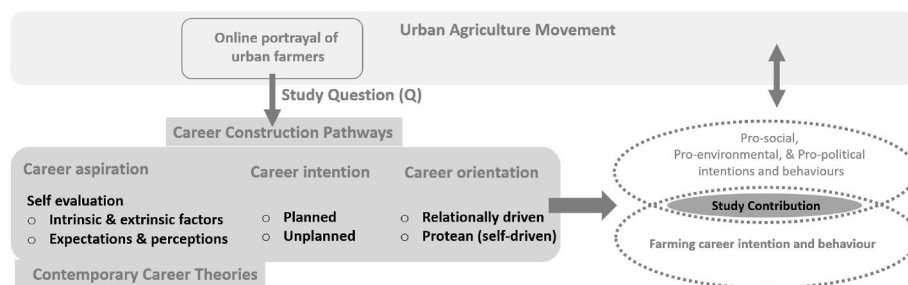


Fig. 1. The study framework: the online portrayal of urban farmers & constructing farming-career paths.

Notes: 1) The graphical representation illustrating the connection between the urban agriculture movement and its pro-social, pro-environmental, and pro-political intentions and behaviors is based on previous studies. These studies explore urban agriculture as pro-social (Das and Ramaswami, 2022; Dimitri et al., 2016; DeMarsh, 2022; Fifolt et al., 2018), pro-environmental (Ceaser, 2012; Halvey et al., 2021; Schneller et al., 2022; Murrah-Hanson et al., 2022), and pro-political behaviors (Russ and Gaus, 2021; Weissman, 2015; Sonti et al., 2016; Reed and Keech, 2018), and 2) Study Question Q: What narratives from professionals illustrate how online portrayals of urban farmers alter perceptions of the farming profession and influence farming-career paths?

food producer with greenhouses. The group comprised two female and two male urban farmers. All participants held degrees in fields outside of agriculture, such as marketing, forestry engineering, chemistry, and healthcare administration. Participants came from families that were at least two generations removed from farming.

In total, 32 interviews were conducted through both face-to-face and online meetings by the first author, who is trained and experienced in the biographical narrative approach and semi-structured interviews. To maintain consistency throughout the interviews, the study adhered to an established interview protocol and involved continuous assessment.

Face-to-face meetings were conducted at various points during the fieldwork, but mostly at the urban agriculture sites, and were used as field observation consisting of photos and hand-written notetaking. The brief field notes captured personal observations, such as ongoing interactions among urban agriculture network participants, activities at urban agriculture sites, and events at urban farmers' markets. These notes were used to build a foundational understanding for subsequent analysis.

Each interview lasted between 40 and 90 min, and all were digitally audio-recorded with the participant's permission, with signed consent forms being obtained from each of them. Recorded audio interviews were transcribed using the NVivo software, and manual corrections were made where needed. The interview data was manually analyzed, enabling a more profound engagement with the data and fostering a more refined comprehension of the study context.

4.2. Data analysis

We employed a three-stage analysis that was explored via professionals' perspectives. In each stage, we used the qualitative thematic coding method and analyzed the data by looking for key themes. Since we were interested in three different dimensions of the model (career aspiration, career intention, and career construction), we began by searching for themes addressing these dimensions.

The first stage (Dimension-I) investigated the expressed particularities about the portrayals of urban farmers on social media as a value-motivating career aspiration. The emergent themes were considered, based on a comparative approach by iterating the previous research on urban farms, particularly studies documenting findings from our case study cities (Duranton and Puga, 2023; Hatchett et al., 2015; Kaufman and Bailkey, 2000; Vitiello and Wolf-Powers, 2014).

The second stage (Dimension-II) included coding based on the narratives that share the opinions of the career intention potential of online urban agriculture initiatives. The career intention path of an individual may include both predictable and planned, as well as unpredictable and unplanned events (Modestino et al., 2019). We elaborate that career exposure is a helpful occurrence both to engage in making meaning out of unplanned events if someone is experiencing indecision or a lack of vision and to inspire for a particular profession that may engage in a predictable path. Career experiment is defined as taking risks or trying different work tasks, or roles in which the outcome of efforts is uncertain (Modestino et al., 2019), and allows one to advance in a planned career path with structured sequences.

In the third stage (Dimension-III), the themes in the direction of the career orientation potential of online urban agriculture initiatives were classified according to contemporary career theories (Boyle, 2022; Guan et al., 2019), in which youth are associated with protean intrinsic motivations, and are relationally driven (e.g., in our case inspired by internet relations with others). A protean career orientation refers to an individual viewing a career as a way to self-fulfillment; relationally driven orientation is characterized by online input from others that demonstrates a modeling or following of the career behavior of others (Modestino et al., 2019; Rodrigues et al., 2019; Volmer and Spurk, 2011).

5. Results

The study results provide insights from the perspectives of professionals from urban agriculture initiatives. The findings illustrate how professionals construct narratives for communicating urban agriculture on social media and its role in influencing farming-career construction. Our model highlights the central finding that the social media portrayals of urban farmers can impact career-construction paths through career aspiration, career intention (via career exposure and career experiment), and career orientation (via relationally driven and protean attitudes). Illustrated in Fig. 2, the results were provided via three broad dimensions with nine themes.

5.1. Dimension-I: Online portrayal of urban farmers & career aspiration

Professionals had a core opinion that the online images of urban farmers are multi-faced. What most of these images have in common is that the portrayal of urban farmers on social media differs from farmers in traditional media. In the following, the particularities of the online presence of urban farmers provide a summative description of the core themes of "smallness," "diversity," "guidance by moral values," "innovativeness," and "popularity." These five themes play a role when defining the potential online communication content to stimulate career aspirations toward the farming profession.

Smallness. One of the main particularities of the online portrayals of urban farms is expressed with their smallness, demonstrating the possibility of growing in small plots in and around the cities. Mostly, the recognition problem is a common topic expressed among professionals who are expecting both official (e.g., the visibility of small farms in agricultural censuses), and cognitive recognition (e.g., the possibility of doing good for the planet without conflicting with profitability). The general agreement is that social media helps such a recognition, as shown by this quote from Professional 2 from the university-based urban agriculture initiative in Pennsylvania:

"They (influencers in urban farming) emphasize the fact that you can start very small ... just with your own backyard you could get started in farming."

Diversity. The respondents also referred to the faces of diversity in the images of urban farms in terms of race, gender, and ethnicity that differ from the portrayals of traditional farmers that, as one interviewee put it, most of the time depict "a white man with a pitchfork and straw." Such diversity mirrors the concentration of different backgrounds, and cultures in cities, as this quote from Professional 29 from the university-based urban agriculture initiative in Chicago displays:

"It is an attempt to show the changing face and diversity involved in agriculture ... women, people of color ... definitely you see that trend out there."

Guidance by moral values. Another significant emphasis was related to the use of social media in portraying urban farmers as having moral values and not just economic ones. This perspective is highly evident among professionals who expressed views on personal, social, and environmental topics, such as the psychological benefit of green spaces in cities, quality of food access, and enhanced pro-environmental behaviors. The respondents view moral values as non-numbered contributors to the actual market value of urban farms. A quote from Professional 3 from the community-based urban agriculture initiative in Philadelphia illustrates this:

"Very few urban farmers express themselves as profitable. But the social aspect is there. It would be very interesting if you could calculate the economic value of the social aspect."

Innovativeness. Professionals repeatedly highlight conversations about urban farmers on both social media and in traditional media sources (e.g., broadcasts and newspaper journals), and the way they are

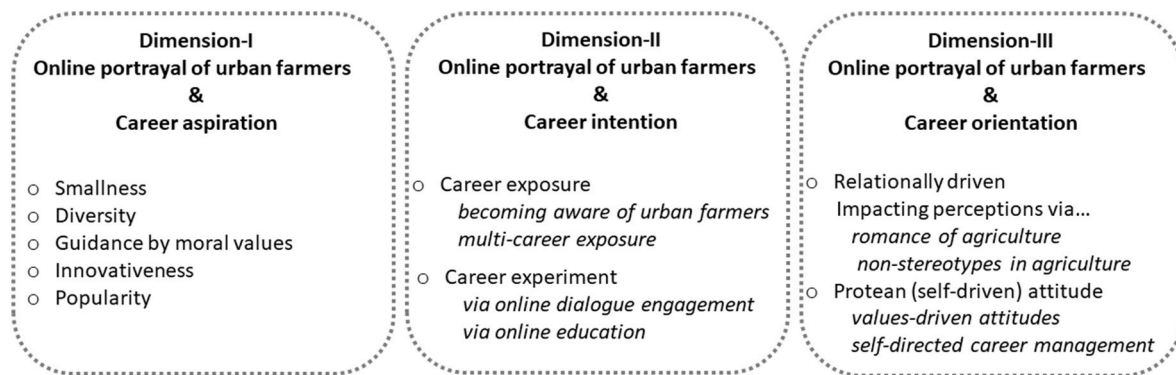


Fig. 2. Results of qualitative thematic analyses with the themes and sub-themes.

Note: The provided themes and sub-themes are **bolded and italicized** in the following manuscript for easy identification.

framed and the way their innovativeness with certain farming methods is discussed. Particularly, hydroponics, aquaponics, and vertical farming examples are given to express the portrayal of commercial urban farms and their innovative and high-tech nature, which the quote from Professional 27 from the high-school-based urban agriculture initiative in Chicago shows:

“Popular media focuses on these high-tech pharmaceutical vertical farms or high-tech capital farms ... that’s what immediately pops into people’s mind when thinking of urban agriculture.”

Popularity. Some professionals expressed the popularity of urban farmers’ social media accounts. A major sub-theme discussed was that of access to green spaces in cities, both in terms of the scarcity of such spaces as a working environment and recreational opportunities. The second major sub-theme arising in the discussions was related to the importance of providing information on growing legalized crops (hemp and cannabis) in the Farm Bill in recent years. Popular urban agriculture networks that grow hemp and cannabis were discussed by both urban farmers involved with such a business and educators with regard to two aspects: First, in terms of an inspirational aspect from social media to grow such new crops in urban gardens, and second, the importance of such social media accounts due to scarce information from formal institutions. This situation enhances opportunities and lets the interested individuals depend on internet sources, particularly social media accounts those share personal experiences. The following quote from Professional 24 from the college-based urban farm in Chicago, which specializes in applied cannabis studies, illustrates this:

“A lot of students are interested in cannabis ... with the questions ‘who’s growing this? How does it grow?’ I think that cannabis is like a worm on a hook for our educational programs. The hook is urban agriculture. The worm that draws people in is cannabis because everybody’s talking about it.”

The study findings offer insights into how online representations of urban agriculture differ across various social media platforms and demographic groups. It confirms that urban agriculture initiatives are primarily active on Instagram, Facebook, YouTube, and TikTok. Respondents generally perceive Instagram as a platform favored by younger individuals, particularly those aged 18 to 35. In contrast, Facebook is seen as more appealing to a mature audience, typically between the ages of 30 and 70. The popularity of Instagram and TikTok among younger generations, along with the visually engaging nature of agriculture and farming-related content—such as attention-grabbing images and micro-videos—makes online portrayals of urban farmers more accessible to youth.

5.2. Dimension-II: Online portrayal of urban farmers & career intention

When it comes to the online portrayal of urban farmers and its relationship with career intention (planned and unplanned career-construction paths), the themes of career exposure and career experiment are forwarded.

Career exposure. One of the primary opinions shared by all professionals is the importance of social media accounts for **“becoming aware of urban farmers.”** Such awareness provides visibility to urban farms, encourages those interested in discovering them by joining organized events or engaging in online dialogues (e.g., food, farming, and information on educational or cultural programs), and creates a unique opportunity to discuss their farming knowledge and experiences further. The following statement from Professional 16, a CBD hemp farmer based in Pennsylvania, highlights the challenges he encountered in obtaining information on soil type and production process from formal institutions, specifically agricultural extension services. He emphasized the crucial role that urban farmers’ online presence played in initiating his business plan as a second career, as it provided him with the necessary knowledge.

“So I had to come up with my own plan. So, I went online and researched growers in California who have established resources on cultivating marijuana. They have websites dedicated to this. I gather as much information as possible to get a clear idea of how to get started.”

A second major opinion raised by the respondents concerned the **“multi-career exposure”** via social media accounts of urban agriculture networks. Many professionals presented examples from online social media accounts of urban farms that introduced potential careers in urban agriculture, which are not limited to farming but included careers in agriculture and food systems, such as agribusiness, social entrepreneurship, food science, technology, research, and marketing. Such a career exposure lets the individuals question their “personal abilities” with internal discussions ranging from “my occupational choice,” and “my background” to “my skills and abilities.” The multi-choice exposure is valuable, particularly for those individuals who have no particular career trajectory in mind and who go along with opportunities as they present themselves.

Career experiment. The professionals described the role of the social media accounts of urban farmers on career experimentation in farming within two prominent sub-themes. The first was career experimentation **“via online dialogue engagement,”** which refers to trying out different types of work tasks (e.g., production and marketing) in which the outcomes are uncertain. This emphasis is on gathering personalized knowledge via online relationships. For example, how to implement proper marketing strategies, what are the key points of building professional collaborations on a certain product, or how to access a

particular input provider, as illustrated by a quote from Professional 3 from a community-based urban agriculture initiative in Pennsylvania:

"They (social media accounts) make it approachable and easy. Where would I buy an irrigation manifold? These people putting these videos out there ... I can just click on. I can find the part that he's talking about in the video, and I can purchase that right now. I think it works together really nicely for people to feel like they can get started and have some basic knowledge ... they're not sort of operating on their own anymore."

Second was the career experiment **"via online education."** The educational background of urban farmers was discussed by many professionals and highlights a **"lack of overall professionalism in the actual growing of urban farms."** Some professionals noted the important role of informal education design with the combination of online and onsite lectures (e.g., apprenticeship programs and urban farmer training master's programs) for individuals seeking to experiment with farming. Among those expressing the attractiveness of online and onsite designed education, attention was brought to the types of agriculture education itself: informal versus formal education. For most professionals, the focus of the discussion was the advantages of informal education in terms of time (e.g., one can apply skills and knowledge in parallel to the education). For example, Professional 32, a beekeeper, shared that she gained valuable insights for starting her business through Zoom lectures organized by a honey cooperative focused on urban beekeeping. Before she enrolled in hands-on beekeeping classes, these virtual sessions provided her with essential guidance, helping her understand the challenges and opportunities of urban apiculture.

Narratives also highlighted how informal education helps individuals: i) those from disadvantaged backgrounds, ii) unplanned career path followers/those going along with opportunities as they present themselves, iii) those who want to be involved in farming as a second job or to transition into a new career, and iv) individuals desiring to expand their career by trying different types of work and roles within the urban agriculture networks, expressed as **"a freedom to make proactive choices"** by Professional 3 from a community-based urban agriculture initiative in Philadelphia:

"The success (of urban agriculture initiatives) is to give a freedom to make proactive choices about careers in agriculture for themselves. We want everyone involved to be able to make a proactive decision. If agriculture is for you, and then here is the next to-do list about agriculture. And if it's not for you, that's totally fine too. Because we're imagining some number of food system professionals, technical service providers, environmental science people ... there are enough transferable skills within agriculture that they'll be able to be part of the community even if they're not actively involved in production."

5.3. Dimension-III: Online portrayal of urban farmers & career orientation

Respondents generally viewed urban agriculture initiatives as mechanisms through which it is difficult to predict farming-career involvement outcomes over the long-term. However, when asked directly, many respondents shared witnesses from their networks by providing examples of specific people (e.g., interns, alumni members, and registered program participants) involved in commercial farming on both a full or a part-time basis, and as a second career. Engagement in urban agriculture programs is often seen as a motivating factor for career choices in the sustainability sectors, and in green industries.

Relationally driven. The first theme for career orientation involves how the representation of urban farmers can influence someone's career choices as a role model, and mentor with unilateral or reciprocal relationships. In our study, relationally driven career orientation refers to the influence of online inputs from others, such as online tutors and influencers, that shape career orientation. The reciprocal relationships between urban farmers and their social media followers are illustrated

by Professional 17, an organic food producer operating greenhouses in Pennsylvania.

"A lot of my relationships, a lot of my work is on social media. So, therefore, and because of that, a lot of doors have opened for me. So we're going to continue to push that forward by working with different social media channels."

It is discussed that online relations cover a large spectrum of connections established and maintained through social media platforms, and two different online images of agriculture may impact individuals' perceptions of a farming-career orientation. The first is the influence of others who portray their profession within the images that show the **"romance of agriculture"** and highlight autonomy in work, self-sufficiency, environmental sustainability, and a call to a pastoral return. Some professionals shared their experience of how social media influencers that portray farming with a romantic notion are influencing individuals to be involved with urban farming programs, as the following quote illustrates:

"The advantage of urban agriculture in and around cities is ... that it is inspiring. It is sort of something when people see it or read about it. They like it, say, 'Oh, wow, this is great.' There is a romance to it, right? When they get into it, I think it continues to attract people. In our program, we get 70/80 applicants every time we open it up. It's because there is an interest in the romance of agriculture."

Second is the modeling or following the career behavior of others who portray their profession within the images that communicate with **"non-stereotypes in agriculture."** Professionals referred to the sharing of images on social media of high-tech urban farms, urban agriculture network actors that document green workspaces in the cities (e.g., the Instagram accounts of Curtis Stone in Canada, and Union Square green market in New York), and images that foster the confidence surrounding the possibility of growing new crops in small urban gardens, as provided by Professional 2 from the university-based urban agriculture initiative in Pennsylvania:

"There are some celebrity farmers (in social media), and I think that makes a difference. For example, right now, the hemp and marijuana industries are really popular and driving a lot of young people to consider agriculture for that industry in particular."

Protean (self-driven) attitude. A second theme for career orientation focuses on how online representations of urban farmers are perceived to cultivate protean career attitudes, in which the individual's internal values guide their career choice and engagement in self-directed career management. Two main codes emerged from this. The first relates to **"values-driven attitudes."** Generally, portrayals of urban farmers associated with achievements in moral values are powerful motivators in career orientation by activating the intrinsic factors (e.g., feeling responsible for the farming career). The commentaries on this reputedly expressed the career goal-settings attached to the challenges of food injustice, food desert, self-insufficiency, and challenges with community engagement. The following quote, shared by Professional 23 from an urban farmers' market in Chicago, illustrates a values-driven attitude in a farming career:

"One of our new farmers told the story about how he was a schoolteacher, and a lot of his students were facing food injustice and food insecurity. And he felt like he wasn't able to solve that problem in the classroom. He kind of moved into farming with this idea of solving food insecurity, whereas like other ones of our farmers, it's been in their family for generations"

For the second code, survey participants also acknowledged that **"self-directed career management"** is a proactive approach in which individuals take personal initiative and responsibility for managing their careers. As discussed with the theme of **"via online education,"** distance learning opportunities facilitate the shift in the definitions of career

management. Within our sample, family and personal identity are referred to as one of the important guides for self-directed career decisions leading to adaptive performance. The online portrayals of urban farmers who are sensitive to the topic of slavery and historical, racial, and family roots in farming play a role in honoring the moral values associated with careers in agriculture, and these values might interfere with their career choices. This might occur in both directions and can be defined as a two-sided impact of family and personal identities on farming-career management: “critical” vs. “motivational.” In our interviews, references to individuals coming from difficult farming families/historical backgrounds, considering farming as a career for honoring family values, were noted both as “critical” or “motivational.” An example of the motivational perspective is provided through this quote from Professional 28 from the high-school-based urban agriculture initiative in Chicago:

“It’s a like new thing that people are getting into, and they’re tapping more into their historical roots rather than just like their immediate family roots. Urban agriculture is like a revolutionary act: it’s an act against the system, it’s making your own life, and it’s knowing how to sustain yourself.”

6. Discussion and conclusion

This paper aims to contribute to the literature on the generational renewal problem in agriculture by examining it through the lens of farming-career communication. This research builds on the previous literature that provides insights into the significant role of alternative food movements in creating organizations to support a new generation of farmers by providing training opportunities and career progression with marketing assistance (Bruce, 2019; DeLong et al., 2023; Iles et al., 2023; Inwood et al., 2013). Our findings extend these studies by investigating the role of online alternative food movements in supporting the farming-career paths. Among the alternative food movements, the study focuses on the urban agriculture movement, in which the representative players are interested in farming with pro-social, pro-environmental, and pro-political intentions, often with a lack of transfer of intergenerational family knowledge.

Results provide insights into the potential roles that the urban agriculture movement plays in acting as a catalyst for professional interest (as part-time or full-time jobs) in farming within three core concerns: i) the particularities of the online portrayal of urban farmers that have the potential to initiate career aspirations toward farming; ii) the extent to which online career exposure and online information gathering for farming career experiments influence the planned or unplanned career intention and iii) views about the role of the online presence of urban farmers to cultivate relational-driven and protean (self-driven) values for the career orientation. In the following, we discuss the study findings with these three core concerns.

6.1. The online portrayal of urban farmers

In professionals’ narratives, social media is widely seen as a valuable tool for enhancing the visibility of small urban farmers. This increased visibility can inspire and provide aspirations for others and emphasize that they can start farming on a small land. The portrayal of “smallness” relates to the category of “Greenhorn farmers”, as defined by Bruce (2019). The “Greenhorn farmers” engage in alternative food networks along the rural-urban continuum. They typically establish small-scale farms focusing on specialty crops, including vegetables, fruits, flowers, and herbs. This approach to farming requires less capital, land, and experience to get started (Bruce, 2019, p. 36).

Our findings show that social media images of urban farmers illustrate the “diversity” of backgrounds and cultures, portraying farmers with varied representations of race, gender, and ethnicity. This depiction of urban farmers aligns with how they are often represented in

online media, which portrays new farmers as highly educated and from urban or suburban regions with diverse backgrounds (Dewey, 2017). A recent U.S. National Young Farmers Coalition report highlights that young people of color and indigenous people are increasingly becoming farmers (Ackoff et al., 2022). However, it is important to interpret our study results with caution. We cannot conclude the impact of the “diversity” portrayal of urban farmers on such an increasing trend based solely on the role of alternative food movements.

The online portrayal of urban agriculture initiatives as “guidance by moral values” may positively influence farming career identity and deal with the challenge of the conventional view that morality and the market are opposing forces. This perspective resonates with literature that underscores the impact of urban agriculture in cultivating moral values such as self-reliance, sustainability, and ethical consumption within communities (Weissman, 2015). Recent studies recognize the importance of non-economic values in driving career paths in pursuing a farming profession, particularly among first-generation farmers (Inwood et al., 2013; Bruce, 2019; DeLong et al., 2023; Iles et al., 2023). For instance, as noted by DeLong et al. (2023), first-generation farmers’ environmental values influence whether they will pursue a particular goal, such as having an environmentally sustainable farm. This demonstrates the significant influence that moral beliefs have on individual decisions regarding farming practices.

The depiction of urban farms with “innovativeness” reflects the online visibility of high-tech and new farm management practices that can foster career aspirations. Such online visibility highlights the innovative potential of farming (e.g., integration of digital agriculture practices) and the geographical flexibility it offers (e.g., the capacity of urban farmers to alter their farming practices based on the size and structure of urban farms). This finding supports and adds more insights to previous studies showing that effective social media communication strategies play an important role in fostering youth’s career aspirations to become founders of indoor urban farming companies (Broad, 2020; Manning, 2019).

Professionals recognize the appeal of urban agriculture, noting its rising “popularity” on social media. This trend is significant for promoting green work environments and recreational green spaces within urban areas. Online representations of urban farmers encourage the sharing of experiences related to cultivating popular crops, such as hemp and cannabis for medical and recreational purposes, as well as new farm management practices like indoor farming with hydroponics. Our findings extend the previous findings by revealing that the increasing interest in urban agriculture in recent years is driven not only by sustainability, food security, community engagement, and environmental health (Lovell, 2010; Whittinghill and Sarr, 2021) but also by a fascination with emerging crops and innovative farming techniques.

6.2. Digital media shifts the attitudes towards re-skilling for a career

Our findings show that social media’s ability to help people explore different careers in urban agriculture initiatives and self-experiment with farming practices influences career intentions, and shifts the attitudes towards re-skilling for a career in many ways: i) getting aware of urban farms/farmers, and actors in the urban agriculture networks; ii) gaining personalized knowledge through online interactions; iii) opportunities for self-learning; iii) forming professional collaborations, and iv) experimenting with different work tasks, such as production and marketing. These findings enhance the understanding of other researchers who document the recent farm entry trends in the U.S. For example, Iles et al. (2023) found that many small- and medium-scale new farmers primarily rely on self-guided internet searches, while DeLong et al. (2023) highlighted that first-generation farmers drew inspiration from online courses and YouTube videos.

The potential of social media as a “career experiment” involves acquiring knowledge and experiences through engaging in online dialogues. The significance of online dialogue engagement in career

experiments is consistent with an earlier study conducted by Solis-Toapanta et al. (2020) that examined the social media platform Reddit, focusing on indoor gardening with hydroponics, and related topics like production systems, plant lighting, and root zone environment. The researchers documented that online platforms present an opportunity to bridge knowledge gaps and promote positive experiences for individuals interested in farming through engaging discussions.

This study shows that the social media platforms run by urban agriculture institutions provide avenues for career experimentation through knowledge acquisition via online education. This provides additional insight alongside other studies that noted a considerable increase in the popularity of online educational offerings from University Extension and gardening sectors during the COVID-19 pandemic (Dorn et al., 2021; Sparks, 2020). This shift was concluded in the study by Dorn et al. (2021), as online learning programs became the norm and are likely not to change, influencing the future of natural resource education programs.

6.3. Online portrayals enhance self-driven and relationally motivated career orientation

The professionals in our study highlighted that online portrayals of urban farmers enhance career orientation through “*relationally driven*” and “*protean (self-driven) attitudes*.” This dual influence underscores the potential of digital platforms to shape professional identities and career trajectories.

The “*romance of agriculture*,” as depicted in the online portrayal of urban farmers builds upon other researchers’ work in the offline dimension of urban agriculture engagement. McClintock’s study (2017) reviews how urban agriculture embodies a contemporary form of “*unexpected romance*.” It emphasizes environmental sustainability and promotes local and artisanal food production while linking urban agriculturists to city real estate developers. In our context, the impact of online tutors and influencers on digital platforms reflects a romantic notion, as they may possess the ability to shape career orientation.

Online portrayals of urban farmers with non-stereotypical images in the form of high-tech farms and successful small-scale farming have the potential to change the perceptions towards agricultural careers and foster confidence and interest in farming. This is aligned with the studies of Broad (2020) and Manning (2019), which report the positive impact of social media communication strategies on a Brooklyn-based commercial indoor vertical farm specializing in hydroponically grown herbs. The authors highlighted how the company’s public engagement campaign promoted career training initiatives and generated interest in entrepreneurship within the field of indoor urban farming.

Our findings show that the online portrayals have the ability to enhance protean (self-driven) motivated career orientation with a sense of responsibility for addressing “food injustice,” “food deserts,” “self-sufficiency,” and “challenges with community engagement.” An example of how online platforms can create a sense of community and inspire individuals to engage in initiatives addressing social issues related to food is provided by Reed and Keech (2018) through their examination of urban farming activism on Twitter. Their research indicates that urban agriculture activism mainly aims at strengthening and expanding networks founded on shared social values rather than forming a counter-narrative to existing debates. Furthermore, the study by McGinnis et al. (2019) illustrates how online networks can drive interest in horticulture as an appealing career while addressing broader social challenges. The authors highlight the significance of online networks like Instagram in promoting horticulture careers for millennials by emphasizing communication strategies that align with their values of sustainability, local produce, and health and wellness. However, different than social values, our study found that honoring the moral values associated with slavery and historical, racial, and family roots in farming can both challenge and motivate individuals regarding their career paths in agriculture.

6.4. Practical implications

Our findings have several practical applications for institutions that communicate about opportunities in farming and agricultural careers. Our study findings confirm that urban farming messaging through social media outlets impacts career aspiration, inspiration, and orientation toward sustainability sectors, including jobs in agriculture. Online posts showcasing the urban farming system through engaging videos, sharing knowledge in an easily understandable manner, and posting images of the work culture and conditions, such as independent work culture or collectivism, may inspire others by impacting individuals’ perceptions of the farming profession. Opportunities exist through Instagram, Facebook, X, TikTok, Reddit, and blogs. Such online outlets probably had more impact on youth than those that use them via academic outlets. Attention-grabbing messages may take the form of a picture or micro-video with a description of the personal experiences of individuals from urban farms (e.g., farmers, interns, and staff) emphasizing the “smallness,” “diversity,” and “innovativeness” of urban farming efforts by incorporating information about growing popular crops and new farming techniques.

Institutions that communicate the economic values of farming can foster more proactive decision-making by encompassing moral values in their online messages. The “autonomous e-citizenship” concept of Coleman (2008) argues that the internet is seen to have greater appeal and relevance among young people and that it has the potential to create new, networked forms of interpersonal communication with autonomy and activism. Institutions embrace this new form of e-citizenship to promote civic engagement through sophisticated, tailored online campaigns, develop games and quizzes to engage young people, disseminate information, and gather feedback from young people for research, evaluation, or consultation purposes (Chaskin et al., 2018). In our context, while the internet shifts the definition of civiness (Stornaiuolo and Thomas, 2017), the online portrayal of urban farmers as moral achievers provides new farming career communication approaches that have the potential to shift from online civiness to in-person support of urban agriculture initiatives.

Our study highlights the role of online education and dialogue engagement in gathering information as a proactive approach to constructing farming career paths. In our research, many professionals noted that urban farmers often “*lack professionalism*” regarding their educational background in agriculture. We believe that online education could play a significant role in meeting the informational needs of individuals interested in farming. This, in turn, could improve access to agricultural education programs and foster experimentation in farming careers.

6.5. Study limitations and avenues for further research

This study focuses primarily on the perspectives of professionals from urban agriculture institutions, many of whom have shared their personal experiences within the limitations of their networks. Given the small sample size of beginning urban farmers in this study, we encourage future research to explore how the online portrayal of urban farming has influenced their career paths with more explicit illustrations from lived experiences. Additionally, since our subjects are professionals from two states—Pennsylvania and Illinois—it is difficult to say whether our findings are generalizable to other geographies. We encourage future research to explore the link between the online representation of urban farmers and farming career paths across various geographic regions.

The longitudinal qualitative research is valuable for tracking the long-term effects of online social movements on career intentions in farming. This is particularly important given that persistence in the farming business is increasingly threatened by challenges such as climate change and market fluctuations. Such research could facilitate comparisons of changes and stability over time, revealing how

economic, social, and environmental challenges influence shifts in long-term decision-making.

Finally, this study integrated data from key informant interviews and interviews with beginning urban farmers. We suggest that future researchers expand their approach by integrating quantitative measures and including perspectives from agriculture influencers. As a part of the larger project, our upcoming study will analyze online messages from the social media accounts of urban agriculture initiatives.

CRediT authorship contribution statement

İlkay Unay-Gailhard: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Robert J. Chaskin:** Validation, Supervision, Conceptualization. **Mark A. Brennan:** Validation, Supervision, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

The data that has been used is confidential.

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