ARBORICULTURE & URBAN FORESTRY
Volume 50, No. 4, July 2024
Formerly the Journal of Arboriculture, 1975 – 2005 (Volumes 1 – 31)

CONTENTS

Abstract. Background: Professional credentialing refers to the process of obtaining a certification or license that validates an individual's knowledge, skills, and abilities according to industry-accepted ethics and standards. The International Society of Arboriculture (ISA) confers and manages professional arborist certification as well as other arborist credentials. However, many communities, such as in the southern United States, have few if any credentialed commercial tree care professionals. This study explores the motivations and barriers commercial tree care workers place on professional arborist certification. Methods: The research employed 60 qualitative interviews from 3 of the 8 southern states to elicit emergent themes and detailed understanding of participants' attitudes and experiences. In addition, an online survey of 742 international respondents was conducted to validate and complement interview findings. Results: Results illustrate degrees of professional interest in certification. For example, some arborists pursued certification to improve sales with government organizations, while both certified and noncertified participants suggested few clients were aware of certification and therefore did not consider certification valuable to market competition. Additionally, company cultures supporting professional development and engagement with professional organizations influenced certification among new employees. Finally, some arborists viewed certification as a pathway to increase knowledge, skills, and confidence in arboriculture. Others discussed difficulties in traditional education and testing required for certification. Conclusion: The reasons for pursuing certification were as diverse as the tree care workers in the industry. Findings suggest several possible interventions to address the challenges some individuals have in achieving certification.

Keywords. Arboriculture; Certification; Commercial; Credential; Tree Care.

Abstract. Background: Arborists are important in both the maintenance of urban trees and research on forest canopies. Tree climbing is hazardous work. This study investigated the causes of a branch-breaking accident involving a certified arborist. Methods: The branch was 11 cm in diameter. The density and mechanics of the branch wood were studied; the measurable stresses and deformations until the material ruptured were analyzed. The position of the tree climber and the applied forces were calculated, including the shear stresses, the bending moment, and the support reaction suffered at the point of rupture. Results: The shear stress grew exponentially from $V = 25.78$ MPa; a shifting of the angle of the lanyard by > 45° and moving one meter toward the tip of the branch caused a 64.67% increase in shear stress. The support distance of the arborist's body on the one anchor point on the branch, combined with the angle of force on the same branch, caused the imminent rupture of the branch's base. The study provides evidence that the arborists should avoid traveling over small horizontal branches using only one safety point with lanyards.

Keywords. Arboricultural Operations; Canopy; *Ocotea porosa*; Tree Safe Work.

Abstract. Background: Urban trees are the most conspicuous elements of greenery in cities, providing goods and services that contribute to people's well-being. However, proper tree care and management are necessary for their survival, particularly for street and residential trees. Methods: Through a survey, our objectives were to identify and quantify the presence of residential and street trees and the contribution of residents in tree planting and care in the city of Xalapa, Mexico. We assessed the dwelling characteristics that facilitate the presence, planting, and care of residential and street trees in the city (socioeconomic level, homeownership, time of inhabitance, and location of dwellings) via Generalized Linear Models. Results: In Xalapa, the presence of residential trees was higher than that of street trees; people contributed significantly to the planting and care of both residential and street trees; the socioeconomic level and time of inhabitance were positively associated with the presence and planting of street trees; and homeownership was positively associated with residential trees. However, tree care was largely

Abstract. The importance of urban parks for improving the quality of life of residents is becoming increasingly clear as people interact less and less with nature. Urban parks should be designed to have a profound impact on the mental health and well-being of citizens through the provision of high-quality facilities and services. Nevertheless, there are differences in the influencing factors in urban parks. Nowadays, urban parks as the lungs of cities are considered important destinations for citizens to get rid of stress and mental fatigue. Therefore, it is important to understand what factors contribute to people feeling mentally better and improving their well-being. Based on people's experiences and opinions, the present study aims to investigate how urban parks as nature-based solutions in Marivan City, Iran, especially the green infrastructure and its elements in Shano and Zaribar Parks, contribute to respondent's mental health and overall well-being. The necessary data for this study were collected from 277 respondents using a questionnaire. The questionnaire was randomly distributed both in person and online. The questions were categorized based on 3 indicators directly related to mental health and well-being: perceptual, visual, and functional. Data were analyzed using structural equation modeling in Smart-PLS software. Results indicate that the perceptual, visual, and functional indicators in Marivan's urban parks have a significant impact on the mental health and well-being of residents. Among these indicators, the visual indicator has shown the highest level of influence.

Keywords. Nature-Based Solutions; Structural Equation Modeling; Theater Park; Waterfront Park.