



Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi

Yıl: 2026 Sayı: (21) ss: 1-31

Academic Review of Economics and Administrative Sciences

Year: 2026 Issue: (21) pp: 1-31

<http://dergipark.org.tr/pub/ohuiibf/>

ISSN: 2564-6931

DOI: 10.25287/ohuiibf.1712535

Geliş Tarihi/Received: 02/06/2025

Kabul Tarihi/Accepted: 09/09/2026

Yayınlanma Tarihi/Published: 28/09/2026

Araştırma Makalesi

Research Article

DEVELOPMENT A SCALE FOR MEASURING THE FACTORS DETERMINING COMPANY PREFERENCES IN VOLUNTARY INDIVIDUAL PENSION SYSTEMS

Mert ERSEN¹

Semra ERPOLAT TAŞABAT²

Kemal Cem SÖYLEMEZ³

Abstract

The Private Pension System (PPS) is an important financial instrument for developed societies and recent legal regulations in Turkey have made the system more attractive for investors. With these developments, there has been a significant increase in the number of PPS companies operating in Turkey. It is a critical decision-making process for investors to choose the most suitable one among the many alternatives. The purpose of this study is to develop a scale to determine the factors influencing the voluntary PPS company preferences of individuals between the ages of 25-35, university graduates and employees. The data obtained from 220 participants were determined to be suitable for factor analysis with KMO and Bartlett tests, and the question pool of 192 items was reduced to 109 items with expert opinion. As a result of the exploratory factor analysis, inappropriate items were removed and a seven-factor structure consisting of 31 items was obtained. These factors are named as "After Sales Services", "Professional Fund Management", "Company Image", "Trust", "Experience", "Portfolio Size" and "Diversity of Pension Plans". The fit indices obtained as a result of the confirmatory factor analysis were $\chi^2/df=1.058$, CFI=0.998, TLI=0.998, SRMR=0.062 and RMSEA=0.016, respectively. These values show that the validity of the structure created by the exploratory factor analysis was ensured by confirmatory factor analysis. In addition, the overall reliability coefficient of the scale was calculated as Cronbach $\alpha=0.668$ and it was concluded that the scale was valid and highly reliable.

Keywords : Exploratory Factor Analysis; Confirmatory Factor Analysis; Private Pension System; Scale Development.

Jel Classification: C38; C39; G22; G23

¹Assistant Professor, Bursa Technical University, Faculty of Engineering and Natural Sciences, Department of Data Science and Analytics, mert.ersen@btu.edu.tr, ORCID: 0000-0001-5643-4690

² Professor, Mimar Sinan Fine Arts University, Department of Statistics, semra.erpolat@msgsu.edu.tr, ORCID: 0000-0001-6845-8278

³ Dr., Independent Scholar, kemalcemsoylemez@gmail.com, ORCID: 0000-0003-1607-7208

Citation:

Ersen, M., Erpolat Taşabat, S. & Söylemez, K. C. (2026). Development a Scale for Measuring the Factors Determining Company Preferences in Voluntary Individual Pension Systems, Academic Review of Economics and Administrative Sciences, Issue 21, 1-31. <https://doi.org/10.25287/ohuiibf.1712535>.

GÖNÜLLÜ BİREYSEL EMEKLİLİK SİSTEMİNDE ŞİRKET TERCİHLERİNİ BELİRLEYEN FAKTÖRLERİN ÖLÇÜMÜNE YÖNELİK BİR ÖLÇEK GELİŞTİRME

Öz

Bireysel Emeklilik Sistemi (BES), gelişmiş toplumlar için önemli bir finansal araçtır ve ülkemizde son yıllarda yapılan yasal düzenlemeler, sistemi yatırımcılar için daha cazip hale getirmiştir. Bu gelişmelerle birlikte, Türkiye’de faaliyet gösteren BES şirketlerinin sayısında belirgin bir artış yaşanmıştır. Yatırımcıların, birçok alternatifin bulunduğu bu şirketler arasından en uygun olanı seçmeleri, kritik bir karar verme süreci oluşturmaktadır. Bu çalışmanın amacı, 25-35 yaş aralığında, üniversite mezunu ve çalışan bireylerin gönüllü BES şirketi tercihlerinde etkili faktörleri belirlemeye yönelik bir ölçek geliştirmektir. 220 katılımcıdan elde edilen verilerin KMO ve Bartlett testleriyle faktör analizine uygun olduğu belirlenmiş, uzman görüşüyle 192 maddelik soru havuzu 109 maddeye düşürülmüştür. Açıklayıcı faktör analizi sonucunda uygun olmayan maddeler çıkarılarak 31 maddeden oluşan yedi faktörlü bir yapı elde edilmiştir. Bu faktörler; “Satış Sonrası Hizmetler”, “Profesyonel Fon Yönetimi”, “Şirket İmajı”, “Güven”, “Deneyim”, “Portföy Büyüklüğü” ve “Emeklilik Planları Çeşitliliği” şeklinde adlandırılmıştır. Gerçekleştirilen doğrulayıcı faktör analizi sonucunda elde edilen uyum indeksleri sırasıyla $\chi^2/df= 1,058$, $CFI=0.998$, $TLI=0.998$, $SRMR=0.062$ ve $RMSEA=0.016$ olarak bulunmuştur. Bu değerler, açıklayıcı faktör analizi ile oluşturulan yapının doğrulayıcı faktör analizi ile geçerliğinin sağlandığını göstermektedir. Ayrıca, ölçeğin genel güvenilirlik katsayısı Cronbach $\alpha=0.668$ olarak hesaplanmış ve ölçeğin geçerli ve oldukça güvenilir olduğu sonucuna ulaşılmıştır.

Anahtar Kelimeler : Açıklayıcı Faktör Analizi; Doğrulayıcı Faktör Analizi; Bireysel Emeklilik Sistemi; Ölçek Geliştirme.

Jel Sınıflandırılması : C38; C39; G22; G23.

INTRODUCTION

In today's rapidly evolving technological landscape, companies are continually conducting market research to meet consumer needs and expectations. However, rather than being content with understanding current demands, businesses must also anticipate future shifts in consumer preferences (Albay, 2010). To remain competitive, companies should establish production and service systems that are responsive to these evolving preferences. Achieving this requires considering not only consumer desires but also cultural, technological, and economic changes. This holistic approach enables firms to maintain a competitive edge and deliver products and services that align with consumers' changing expectations (Saraçlı & Şıklar, 2005).

Consumer behavior is a complex process that encompasses individual decisions related to the purchase and use of economic goods and services (Durmaz & Bahar Oruç, 2011). Before making a purchase, consumers often evaluate various factors, shaping their choices accordingly (Ivanovic, 2003). Product and service quality is a significant determinant in these decisions (Odabaşı, 1996). Consumers seek reliable, high-quality offerings that meet their needs. As such, quality becomes a central factor influencing purchase behavior (Ünlü & Tolon, 2012). When assessing quality, consumers typically consider durability, performance, ease of use, customer service, and brand reputation. Through this evaluation, they aim to select the option that best fulfills their needs and expectations (Kotler & Armstrong, 2004). Therefore, providing high-quality products and services is essential for companies aiming to gain a competitive advantage and enhance customer satisfaction.

Across all sectors, individuals and organizations are exposed to unexpected risks that can lead to severe financial or social consequences. Insurance exists to mitigate these risks (Karagöz et al., 2019). By paying a premium, individuals and businesses gain protection through insurance contracts, safeguarding them from potential losses. These contracts not only provide financial security but also reinforce societal trust and solidarity (Kaya, 2021; Tüfekçi, 2006). Insurance thus plays a vital role in risk management, covering a broad spectrum of risks—from natural disasters and accidents to health issues and business disruptions (Uralcan, 2011). It supports the continuity of daily life and economic activities, contributing to overall societal stability and welfare. Accordingly, insurance remains a key instrument for managing risk and promoting social security (Duman, 1990).

As one of the most significant sectors in today's financial markets, the insurance industry plays a crucial role in the global economy (Meral, 2023). It aids in managing risks for both individuals and enterprises while contributing substantially to economic growth through its premium income and investment capacity (Outreville, 2013). Additionally, insurance activities reduce the burden on government spending in social security, allowing public funds to be allocated more efficiently for national development (Öçal & Boyacıoğlu, 2018). Insurance not only raises individual living standards but also enhances overall societal welfare. Thus, it is a cornerstone of financial stability and economic progress (Şamiloğlu et al., 2019).

To sustain their presence in the competitive financial landscape, insurance companies emphasize customer-centric policies. Understanding and effectively responding to consumer needs is essential for enhancing customer satisfaction, ensuring loyalty, and attracting new clients (Meral & Ersoy, 2023; Akpınar, 2018). Companies achieve this by utilizing tools like market research, customer feedback, and data analytics (Başaran & Alagöz, 2003). Moreover, embracing technological advancements and digitalization helps improve the customer experience. Successful implementation of these policies significantly boosts both customer satisfaction and long-term sustainability (Kağncıoğlu, 2008).

Uncertainty and risk are inherent in all economic decision-making processes. Individuals and businesses must consider these factors when making choices, particularly in consumer behavior. Decisions are influenced by a mix of economic uncertainties, personal preferences, income, financial status, and risk tolerance (Karagöz et al., 2019). For insurance companies, understanding these dynamics is crucial for the strategic design, pricing, and marketing of their products. Analyzing risk and uncertainty enables more effective decision-making and helps shape future consumer choices.

The Private Pension System (PPS) supplements public social security system by providing an additional retirement income, managed through private asset management firms (İşseveroğlu & Hatunoğlu, 2012). In Turkey, it facilitates capital accumulation and supports the economy by channeling individual savings into capital markets (Şataf & Yıldırım, 2019). Additionally, the state uses these savings to reduce the current account deficit and finance long-term borrowing (Korkmaz, 2007; Can, 2010). However, since participation in the PPS is voluntary, coverage rates often fall short of expectations. Automatic enrollment, which enrolls employees without their initial consent, has been introduced to increase participation (Meral & Arıcan, 2020). In this system, the employer selects the pension provider, limiting employee choice. Nonetheless, a key advantage is that contributions—at least 3% of the employee's premium-based income—are exempt from entrance and management fees (Can & Eyidiker, 2019).

Through the Private Pension Fund Trading Platform (BEFAS), participants in both the voluntary and automatic enrollment systems can access various important funds. However, certain high-performing funds, such as Anadolu Hayat Sigorta's S&P 500 Fund Basket Fund (ABE), remain unavailable under automatic enrollment (Özen, 2021). The investment options in this system are also more restricted. To improve its effectiveness, automatic enrollment must offer similar satisfaction levels as the voluntary PPS. Due to current limitations—including lack of provider choice and restricted withdrawal options—many employees opt out and prefer voluntary participation. A future shift towards a complementary pension system is being considered, but without addressing these concerns, voluntary plans may continue to dominate.

Private pension companies strive to expand their customer base and boost participation through various marketing strategies. They promote the benefits of pension plans using modern tools like digital marketing, social media, and advertising campaigns (Saraçlı & Şıklar, 2005). By offering products tailored to different age and income groups, these companies aim to appeal to a broad audience. Their efforts are crucial in encouraging more individuals to prioritize financial security and invest in retirement plans, which in turn fosters sectoral growth and societal financial resilience (Açıkgöz & Bilir, 2018).

As private pension insurance grows in significance, the sector is expanding rapidly and competition is intensifying. Understanding the factors influencing individuals' choice of pension providers is therefore essential. While research in Turkey has explored these factors, a standardized measurement tool capturing consumer preferences remains absent. To address this gap, this study aims to develop a scale tailored to Turkey's specific context. This tool will clarify the criteria individuals prioritize when selecting a pension insurance company. The resulting insights will help firms refine their services and

adopt more customer-focused policies, while also providing a valuable foundation for future research on private pension insurance.

I.LITERATURE REVIEW

Individuals considering enrollment in the PPS often evaluate a range of factors (Saraçlı & Şıklar, 2005). Many private pension companies operate as subsidiaries of banks, and in such cases, individuals may prefer the pension company affiliated with their primary banking institution. However, when making a decision, consumers typically assess various company characteristics and opt for the one offering the best service and the highest potential returns on investment. These preferences are often shaped by specific criteria (Saraçlı, 2004). The growing significance of private pension plans has driven rapid expansion within the insurance sector and intensified competition among companies. Consequently, understanding the factors that influence individuals' choice of pension provider has become increasingly important. The literature review reveals that although numerous studies have examined insurance and private pensions in Turkey, there is a notable absence of scale development research specifically aimed at identifying the factors that influence company selection in private pension insurance. Moreover, studies that do apply data analysis techniques often suffer from data limitations. This is primarily due to the unavailability of dematerialized (administrative record) data from private pension companies or the Pension Monitoring Center. As a result, many analyses rely on face-to-face surveys or macroeconomic data.

To address this gap, the present study aims to contribute to the literature by developing a measurement scale that captures the behavior of individuals who have, or are considering obtaining, a voluntary private pension policy. A brief overview of the literature on PPS-related research is presented below.

International studies on PPS participation mirror the themes found in the local literature. For instance, Munnell et al. (2002), Huberman et al. (2007), and Clark and Schieber (1998) examined the factors influencing PPS participation in the U.S., concluding that higher income levels increase the likelihood of participation. In Italy, Fornero and Monticone (2011) identified a positive relationship between financial literacy and PPS enrollment, while Zanghieri (2013) noted that income, education, and financial literacy all significantly affect participation. Similar findings emerged from studies in the Netherlands (Alessie et al., 2011) and Germany (Bucher-Koenen & Lusardi, 2011), which emphasize the importance of financial literacy. Further research by Lusardi and Mitchell (2007) and Prawitz and Cohart (2014) showed that financial education is especially effective in boosting retirement savings among low- and middle-income earners. These findings suggest that employers should enhance financial literacy through seminars, workshops, and similar initiatives.

Turkish studies also explore diverse aspects of the PPS. Kar & Elveren (2008) focused on gender-based income disparities, while Bayar & Kılıç (2014) assessed the impact of the global financial crisis on Turkey's PPS. Doğan (2016) explored the behavioral finance tendencies of bank employees in relation to PPS investment fund preferences. Aren et al. (2015) investigated the influence of age, education, and risk appetite on fund selection. Other researchers, such as Hanağası (2015), Ege (2002), & Acuner (2018), addressed the legal and tax dimensions of the PPS. İşverenoglu & Hatunoğlu (2012) conducted a SWOT analysis of the pension system.

Comparative studies have also been undertaken. Özer & Yalçın (2013) analyzed the relationship between PPS and domestic savings across 16 countries, while Başar et al. (2016) extended this analysis to OECD countries. Efficiency evaluations of Turkish private pension companies were conducted using data envelopment analysis by researchers including Gökğöz (2007), Ayaydın (2013), & Karakaya et al. (2014). Meral & Arıcan (2020) examined the correlation between automatic enrollment duration and the PPS fund size-to-GDP ratio in Turkey and globally. Other studies, such as those by Ertuğrul & Öztaş (2016) & Ceylan et al. (2017), analyzed optimal pension plan selection and strategic sales development, respectively. Risk management frameworks in the PPS were studied by Eken & Gaygısız (2010).

Several studies underscore the positive impact of income on PPS participation (İşbilen, 2008; Şener & Akın, 2010; Uluçay et al., 2020), while others (Altıntaş, 2009; Yazıcı, 2015; Canöz & Baş, 2020) found a strong link between financial literacy and both enrollment and retention. Kayam et al. (2013) highlighted the effects of education, occupation, savings, region, sales channels, and payment methods on system retention. Kuran (2022), using logistic regression, categorized individuals as "participants"

or "non-participants" and found that factors such as stable employment, higher income, trust in the system, and awareness significantly enhance participation.

Some research has focused on customer relationship management within insurance at a theoretical level (Meral, 2021; Akpınar, 2023), while others have analyzed satisfaction within specific insurance branches or channels (Özcan & Tanık, 2021; Muratoğlu, 2012). Although insightful, these studies do not offer a comprehensive analysis of customer satisfaction across the Turkish insurance sector. A recent study by Meral & Ersoy (2023) assessed insurance company performance using consumer complaints filed online, aiming to formulate policy recommendations. Another relevant contribution is by Karagöz et al. (2019), who developed a scale to evaluate factors influencing car insurance provider selection.

To address the identified research gap, this study introduces a scale designed to determine the factors influencing individuals' choice of pension providers, specifically within the Turkish context. The scale will offer clearer insights into the criteria that consumers prioritize when selecting a private pension company. These insights are expected to guide insurance firms in enhancing service quality and adopting more customer-centric policies. Furthermore, this study will serve as a foundational resource for future research and assist prospective participants in making informed decisions about pension plan enrollment.

II.PRIVATE PENSION SYSTEM

PPS is an insurance-based savings mechanism designed to supplement the existing public social security system (Yelekçi, 2003). According to World Bank documents, private pension systems are defined as "insurance systems that are entirely individual, voluntary, independent of employment, and provide participants with additional retirement income" (World Bank, 1994). At its core, the private pension system is a funding model that enables individuals to secure their financial future based on their earnings, without any form of compulsion. The primary principle governing the PPS is voluntariness, emphasizing individual participation and contributions (Erol & Yıldırım, 2004).

Demographic trends such as declining birth rates, increased life expectancy, and a predominantly young population signal significant future challenges. As the population ages, ensuring adequate retirement income will become more difficult, potentially reducing individuals' standard of living during retirement. These concerns necessitated reforms in social insurance and the integration of private pensions into the broader social security framework. In response, Turkey established the Private Pension System in 2001 as a complementary scheme designed to support the public social security system (Şen & Memiş, 2001; Paksu, 2007).

The Private Pension System functions as a voluntary savings platform that allows individuals to accumulate additional income for old age or in the event they can no longer work. Under this system, participants make regular contributions to personalized accounts, which are then managed by pension companies. The amount and form of investment are determined by the participant, reflecting personal preferences and financial goals. By encouraging personal savings, the PPS seeks to enhance financial security during retirement and complement the existing public pension schemes (Özbolat, 2003).

In Turkey, the PPS is explicitly structured to complement, rather than replace, the public social security system and the Social Security Institution (SGK) (İlgin, 2012). Thus, the PPS operates in conjunction with existing public arrangements, and individuals who participate in the private system retain all rights and obligations under the SGK. Importantly, insurance entitlements within the public system cannot be transferred to a private pension account (Kabataş & Gülay, 2022).

Under current regulations, participation in the PPS is mandatory for employees under the age of 45 through automatic enrollment, in addition to the option of voluntary participation (Kocabıyık & Küçükçakal, 2018). Upon reaching eligibility for retirement, participants may opt to receive their benefits either as a regular pension or as a lump sum, similar to the options available in the public pension framework.

A person participating in the private pension system has the following rights and opportunities:

- They can allocate their contributions among different funds of the same pension company (Topalhan, 2010).

- They can change the distribution ratios and amounts of their savings and contributions among pension funds up to 12 times per year (Pension Monitoring Center [PMC], 2026a).
- They can transfer their pension contract to another pension company. For a contract initially established with a pension company, the participant must remain with that company for at least two years before transferring the contract. If the contract was established through a transfer from another pension company, the participant must remain with the current pension company for at least one year before making another transfer (Pension Monitoring Center [PMC], 2026b).
- They can open more than one pension account and combine their accounts in different companies (İşseveroğlu and Hatunoğlu, 2012).
- The pension plan can be changed at most 4 times a year (Topalhan, 2010).
- They determine the amount of their contribution and may suspend making contributions for a period of time if they wish (İlgin, 2012).
- They can leave the system at any time. Those who are included in the system through automatic enrollment can exercise their right of withdrawal within the initial two-month period (Pension Monitoring Center [PMC], 2026b).
- They can monitor and control contribution, pension plan, fund distribution, and other relevant information through the pension and savings account opened in their name (Bağlan, 2006).
- They are entitled to a State contribution corresponding to 20% of eligible contributions, subject to the applicable annual upper limit (Pension Monitoring Center [PMC], 2026c).

Individuals eligible to participate in the Private Pension System (PPS) enter into a private pension contract with a pension company to initiate their inclusion in the system. Pension companies, in turn, establish pension investment funds that typically offer at least three different portfolios reflecting varying levels of risk and return. This structure enables participants to select investment options that align with their individual risk tolerance and financial expectations. The management and investment of participants' savings are carried out by portfolio management firms under the supervision of the Capital Markets Board.

To ensure legal and financial security, the assets of pension investment funds are protected against pledging, collateralization, attachment by third parties, and inclusion in bankruptcy proceedings (Yavaş, 2009). Thus, the law and authorized public institutions provide robust legal protections for participants' fund savings. Throughout their participation, individuals can monitor their savings through personalized pension accounts. The system places a strong emphasis on transparency; participants receive regular updates regarding their contributions, fund characteristics, and fund performance in terms of risk and return. However, the system does not guarantee investment returns. The risks associated with fund selection and market performance are fully borne by the participants (Özel & Yalçın, 2013).

In several European countries, the shift toward private pension systems has been driven by demographic challenges—specifically, aging populations and the decreasing ratio of active workers to retirees, which has increased the fiscal burden on public pension systems (Kırmızı & Hüseyinli, 2019). Turkey's situation, however, is markedly different. Prolonged periods of high inflation, macroeconomic instability, and inconsistent practices within the insurance sector have compounded the challenges facing private pension development (Tunay et al., 2020; Şener & Behdioğlu, 2013; Şamiloğlu et al., 2019; Eren & Çütçü, 2021; Tunay & Tunay, 2023). These economic uncertainties have created significant obstacles to the smooth transition from a public to a private pension framework.

As a result, public trust in the private pension system remains fragile, with many individuals continuing to rely on the traditional state-sponsored pension system. Despite recent policy reforms and incentives that have increased interest in the PPS, several barriers persist. Chief among these are low income levels, lack of confidence in the pension system, and ongoing economic instability (Akgeyik, 2010; Müslümov & Aras, 2011). Consequently, the transition to a private pension system in Turkey is unlikely to progress as swiftly or smoothly as in some European counterparts.

In response to these challenges, private pension companies are actively seeking to expand their customer base. To achieve this, they are focusing on understanding the factors influencing customer preferences and reevaluating their service offerings in light of competitive pressures. Strategies include enhancing

the performance of pension funds, introducing more flexible and diverse pension plans, investing in digital platforms, and improving communication with customers. These efforts aim to increase customer satisfaction, foster loyalty, and attract new participants (Akgün & Bozkurt, 2023).

At the same time, growing competition has prompted some pension companies to pursue operational efficiency. Measures such as reducing administrative expenses, lowering investment management fees, or offering low-cost pension plans are increasingly common. However, the effects of such cost-cutting strategies on customer satisfaction and fund performance require careful evaluation. Ultimately, private pension companies must continuously innovate and refine their services to meet consumer expectations and maintain their position in an increasingly competitive marketplace (Koban, 2008).

III.METHOD

Knowledge acquisition occurs as individuals observe people, objects, events, and processes within their environment. When these observations are consistently repeated over time, the resulting information gradually assumes a numerical form (DeVellis, 2021). In this context, measurement is regarded as a fundamental component of scientific inquiry. Broadly defined, measurement involves the assignment of numbers or symbols to the attributes of objects or individuals in accordance with established rules (Altunışık et al., 2017; Netemeyer et al., 2003). Scientific knowledge must be quantifiable, numerically represented, and amenable to statistical analysis (Dikeçligil, 2006). Instruments designed to operationalize abstract human characteristics—such as cognitive, emotional, behavioral, educational, or reactive traits—are referred to as "scales" (Özdamar, 2016; Durmuşkaya & Erdoğan, 2021).

The initial step in the scale development process is the precise conceptual definition of the construct to be measured. Netemeyer et al. (2003) underscore the importance of a clear and comprehensible definition, highlighting the critical role of theoretical frameworks in this phase. Additionally, the structural characteristics of the construct must be considered—specifically, whether it is unidimensional or multidimensional. In a similar vein, Churchill (1979) emphasizes that a clear definition of the construct is essential for successful scale development. The researcher must delineate which elements are to be included within the construct and which are to be excluded. DeVellis (2021) further asserts that, beyond identifying included and excluded elements, it is also imperative to elucidate the construct's relationships with other theoretical constructs.

The scale development process comprises several sequential stages. These stages involve designing measurement instruments to capture data on theoretical variables that are not directly observable, performing quantitative analyses, and determining the levels of these variables (DeVellis, 2021; Günel & Bircan, 2022). A review of the literature reveals that while the specific enumeration of these stages may vary, their fundamental components are largely consistent (Churchill, 1979; DeVellis, 2021). This study adopts a methodological approach based on the procedures outlined by Tavşancıl (2006), Kayhan et al. (2020), and Günel & Bircan (2022).

In the current study, factor analysis was employed to assess the quality and validity of the measurement instrument. The scale development phase followed a structured sequence of steps, as delineated in the aforementioned methodological references.

- **PHASE 1: Theoretical Framework and Conceptualization**

The aim of the study is to develop a scale to determine the factors affecting the voluntary PPS company preferences of individuals between the ages of 25-35, university graduates and employees. Survey technique was used to collect data from the population.

- **PHASE 2: Creating an Item Pool**

The “Scale for Determining the Factors Affecting the Choice of Insurance Company for Private Pension Policy” used in the research was prepared as a trial scale consisting of 192 questions.

- **PHASE 3: Expert Opinion and Content Validity**

The number of items in the trial scale was reduced to 109 as a result of the evaluation of 10 academicians specialized in the field of insurance. If the factor loadings are high and the sample is homogeneous, 100-200 participants may be sufficient. However, 300+ is recommended for weak structures (MacCallum et al., 1999). For this reason, 220 participants were deemed sufficient in this study due to time constraints

and difficulty in the data collection process. On the other hand, Comrey & Lee (1992) scaling quality classification is given in Table 1 (Comrey & Lee, 1992). According to this Table 1, it can be said that the scaling quality is at a medium level.

Table 1: Scaling Quality Classification

Number of Samples	Quality
< 100	Very weak
100–200	Weak
200–300	Middle
300–500	Good
500–1000>	Very good

This section also examines the table in which Lawshe determines the minimum content validity ratio (CVR) values for different numbers of experts (Lawshe, 1975). The minimum CVR values according to the number of experts are given in Table 2.

Table 2: Minimum CVR Values by Number of Experts

Number of Experts (N)	Minimum CVR
5	0.99
6	0.99
7	0.99
8	0.75
9	0.78
10	0.62
15	0.49
20	0.42

In our study, a CVR value of 0.76 was obtained with 10 experts. This value is higher than the minimum CVR value of 0.62 for 10 experts.

- **PHASE 4: Pilot Study**

As a result of the pre-application, a pilot study was conducted with 40 participants to check the comprehensibility of the questions and to check for technical errors. Since there was no question that caused ambiguity, a 5-point Likert-type draft scale consisting of 109 items with a score range from 1 to 5 was used. These statements were categorized in five ranges from negative to positive as “Strongly Disagree”, “Disagree”, “Undecided”, ‘Agree’ and “Strongly Agree”.

- **PHASE 5: Main Implementation (Data Collection)**

In this section, the necessary data for validity and reliability analyses were collected. In the study, the questionnaire forms were supported by social media, sent to the target audience and the forms were answered by 220 people representing the determined characteristics through Google Forms. A total of 220 university graduates between the ages of 25-35 (115 women and 105 men) participated in the study, taking into account the gender quota.

- **PHASE 6: Exploratory Factor Analysis (EFA)**

In this section, it was determined in which factors the question items were grouped. . In the analysis of the data obtained, IBM SPSS statistical package software was used in the explanatory factor analysis model and JAMOVİ package software was used in the confirmatory factor analysis model. The Kaiser-Meyer-Olkin (KMO) score should be higher than 0.60 and Bartlett's Test should be significant, factor loadings should be greater than 0.30, and the total variance explained should be more than 50%. Principal component analysis and varimax rotation methods were used in the exploratory factor analysis.

- **PHASE 7: Reliability Analysis**

Here, the internal consistency of the scale was determined.

- **PHASE 8: Confirmatory Factor Analysis (CFA)**

In this section, confirmatory factor analysis was conducted to evaluate the construct validity and goodness of fit of the 7-factor structure obtained as a result of the exploratory factor analysis. In addition, model goodness of fit values were checked.

- **PHASE 9: Validity Tests**

AVE and CR values were checked in the evaluation of convergent validity.

- **PHASE 10: Creating the Final Scale Form**

At this stage, the scale was finalized by obtaining a 7-factor structure consisting of 31 items with the best loading, meaningful and reliable items. It was seen that at least 3 items remained as sufficient items from each sub-dimension of the scale.

III.I. Factor Analysis

Factor analysis is one of the multivariate analysis techniques frequently used in many fields, especially in social sciences (Yaşlıoğlu, 2017). Factor analysis aims to find a small number of new (common) unrelated variables by bringing together variables that are related to each other in a p-variable event (p-dimensional space). In other words, it is a dimension reduction and dependency structure elimination method like principal component analysis (Saraçlı, 2013). There are two important points here; the first of these is which factor analysis will be used and the second is which statistical tools will be used for this factor analysis. The method to be applied will affect the results of the research, thus the “construct validity” that is tried to be measured (Yaşlıoğlu, 2017).

There are two general approaches used in factor analysis. The type of analysis in which the researcher does not have any information about the number of factors measured by the measurement tool and tries to obtain information about the nature of the factors measured by the measurement tool instead of testing a certain hypothesis is called exploratory factor analysis, and the type of analysis used in examinations to test a hypothesis developed by the researcher in line with the theory is called confirmatory factor analysis (Tavşancıl, 2006).

Factor analysis serves to reveal the real reasons behind a large number of measurable and observable characteristics, i.e. hidden dimensions that cannot be observed or measured (Johnson & Wincham, 2014; Karagöz et al., 2019). All examined changes are considered as dependent variables as a function of some important, hidden and not yet constructed factor set. On the contrary, one can also treat all factors as dependent variables as a function of the variables originally examined (Karagöz et al., 2019). In this study, firstly, the factor structure of the scale was decided by looking at the findings obtained as a result of the exploratory factor analysis applied to the data. Then, confirmatory factor analysis was conducted to determine the fit between this factor structure and the theoretical factors. In addition, the reliability of the measurements was evaluated with Cronbach Alpha coefficient used to determine internal consistency.

a. Exploratory factor analysis (EFA)

Exploratory factor analysis is a widely used analysis method in fields such as psychology, social sciences, sociology, sociology, geology, medicine, business administration, etc., which enables the identification of units as factors with a new name by gathering together those that can be handled together among a large number of interrelated characteristics of units, which can be handled together, unrelated to each other, but which can be useful in explaining a formation (Kline, 1994; Tavşancıl, 2006; Karagöz, 1991; Özdamar, 2010; Yemez, 2016).

In cases where it is not known how many factors the measurement tool measures and the researcher uses the measurement tool to obtain information about the structure of the factors measured instead of testing a specific hypothesis, it is called explanatory factor analysis (Tavşancıl, 2006). It is a factor analysis that utilizes the Covariance or Correlation matrix of the data to derive a smaller number ($k < p$) of new variables (factors) that are independent of each other from p variables that are related to each other. With this method, a smaller number of factors that highly explain the original variability from p variables are determined and the factor loadings, factor coefficients, and factor scores of these factors are calculated and scores that are highly correlated with the original variables but uncorrelated among themselves are

derived (Henson & Roberts, 2006; Doğan et al., 2017; Karagöz et al., 2019). Creating different structures by utilizing the relationships between variables are the two main purposes of factor analysis (Özdamar, 2010).

Exploratory factor analysis is an analysis that transforms groups into new variables by dividing a large number of variables into certain groups, maximizing the relationship between variables within the group and minimizing the relationship between groups. These new variables are called factors (Karagöz et al., 2016).

b. Confirmatory factor analysis (CFA)

Confirmatory factor analysis (CFA) is an analysis method that is frequently used in the development of measurement models and provides significant convenience (Karagöz et al., 2019). It is a factor analysis used to test the conformity of the factors determined by explanatory factor analysis to the factor structures determined by the hypothesis. CFA is based on testing preliminary expectations about the connections between observed variables and latent variables, which are their non-deterministic functions (Noyan, 2009). Confirmatory factor analysis tests whether there is a fit between the variables that have an effect on determining the theoretically proposed factors and the original variables that constitute the factors revealed by exploratory factor analysis (Özdamar, 2010; Doğan et al., 2017). In this context, construct validity is evaluated by confirmatory factor analysis after constructs are formed by exploratory factor analysis (Kline, 2023; Stapleton, 1997; Doğan et al., 2017). It is generally used in scale development and validity analyses or aims to verify a predetermined structure (Yaşlıoğlu, 2017). By utilizing the factors determined by exploratory factor analysis and the variables in the data matrix, it is investigated whether there is a fit between the factors and variables, that is, whether there is a high correlation.

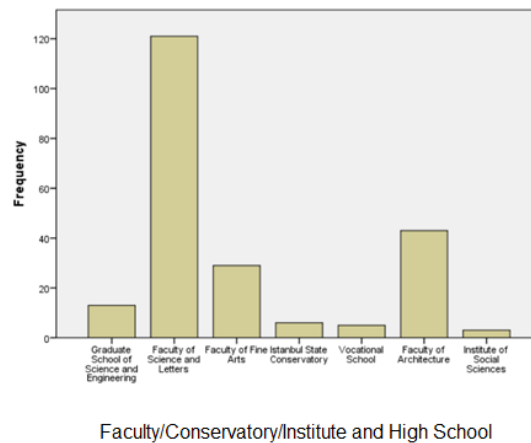
III.II. Internal consistency analysis

One of the reliability analysis methods is internal consistency analysis, which investigates whether the statements considered together measure the same construct, that is, whether they are consistent within themselves (Churchill, 1979; Nunnally, 1979; Karagöz et al., 2019). One of the basic assumptions in Likert-type scale development studies is that there is a monotonic relationship between the entire attitude to be measured and each item in the scale (Yemez, 2016). In other words, there is an assumption that each item basically measures the same attitude (Tavşancıl, 2006). Therefore, when developing a Likert-type scale, it is appropriate to use the α coefficient developed by Cronbach, which is accepted as a measure of internal consistency to determine the level of reliability (Cortina, 1993; Haladyna, 1999). The alpha coefficient is used to determine whether the questions in the scale form a uniform structure in certain groups (Karagöz, 2016). In other words, in Likert-type scale studies, there is the assumption that all items essentially measure the same attitude (Tavşancıl, 2006). For this reason, Cronbach's alpha coefficient, which is used to determine the level of reliability in the development of Likert-type scales and is considered an internal consistency criterion, is generally used. Cronbach's α coefficient takes a value between 0 and 1, and the higher the α coefficient of the scale, that is, the closer it is to 1, the more consistent the items in the scale are with each other and the more it is accepted that they measure the elements of the same characteristic. (Tezbaşaran, 1996; Yemez, 2016; Karagöz et al., 2019).

IV.RESULTS

In this study, a total of 220 respondents (115 women and 105 men) participated in the survey in order to develop a scale to determine the factors affecting the preferences of university graduates and working individuals between the ages of 25-35 for voluntary PPS companies. Figure 1 shows the bar chart graph of the respondents according to the faculties and institutes they graduated from.

Figure 1: Bar Chart Graph of Surveyed Graduate Students by Faculty/Conservatory/Institute and High School



As can be seen in the bar chart in Figure 1, it is observed that the highest number of university graduates and working individuals participated in the survey from the Faculty of Arts and Sciences with 121 graduates, followed by students from the Faculty of Architecture with 43 graduates.

Before the data obtained were subjected to the exploratory factor analysis model, Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were examined to assess whether the correlation matrix was suitable for factor analysis. The results of the analysis are given in Table 3.

Table 3: Results of KMO Coefficient and Bartlett Sphericity Test

Kaiser-Meyer-Olkin (KMO) Coefficient	0.702	
Bartlett Sphericity Test	Chi-Square Value	13625.769
	Degrees of Freedom	5886
	p	0.000

The KMO measure of sampling adequacy ranges from 0 to 1 and evaluates the extent to which the observed correlations can be explained by common variance rather than by correlations specific to individual pairs of variables (Kaiser & Rice, 1974; Watkins, 2018). KMO values of 0.70 or higher are generally considered desirable for factor analysis (Watkins, 2018). According to the classification used by Kartal & Bardakçı (2018), KMO values between 0.70 and 0.79 are considered "good." Accordingly, the KMO value of 0.702 obtained in this study indicates a good level of sampling adequacy and supports the suitability of the correlation structure for exploratory factor analysis. However, the KMO coefficient should not be interpreted as direct evidence that the overall sample size is sufficient. The adequacy of the overall sample size is a separate methodological consideration and may depend on factors such as the number of measured variables, the magnitude of factor loadings, and the degree to which the factors are adequately represented (Watkins, 2018).

In addition, Bartlett's test of sphericity was conducted to examine whether the correlation matrix significantly differs from an identity matrix. A statistically significant Bartlett's test indicates that the variables are sufficiently intercorrelated to support the application of exploratory factor analysis (Bartlett, 1954; Watkins, 2018). In order to conduct factor analysis, the KMO value should generally be above 0.60, while Bartlett's test should be statistically significant (Nakip, 2006; Arslan & Filiz, 2020).

The KMO value of 0.702 obtained in this study indicates a good level of sampling adequacy and provides support for the factorability of the correlation matrix. Importantly, this result is interpreted as evidence concerning the suitability of the correlation structure for factor analysis rather than as a direct test of the sufficiency of the overall sample size. In addition, the results of Bartlett's Test of Sphericity were examined to determine whether the correlation matrix differed significantly from an identity matrix. The chi-square value obtained ($\chi^2(5886) = 13625.769$, $p < .001$) was statistically significant, indicating that the variables were sufficiently correlated and that the correlation matrix was suitable for exploratory factor analysis.

IV.I. Results of Exploratory Factor Analysis

In order to determine the construct validity of the draft scale, explanatory factor analysis was applied to 109 items in the draft scale and the correlation matrix between these items was examined. For this purpose, principal component analysis and varimax rotation methods were used in exploratory factor analysis. The main purpose of rotation methods is to create a more understandable structure by combining rows and columns in the factor matrix (Coan, 1959). This purpose is the same for both orthogonal and oblique methods. While orthogonal methods do not accept correlation between factors, oblique methods allow correlation between factors. Therefore, the analysis with the orthogonal method tries to obtain independent factors instead of interdependent (correlated) factors. In reality, however, it is quite difficult to find completely independent factors. When the aim of the research is to build a model and obtain the optimal number of independent factors, orthogonal methods such as varimax rotation are usually preferred (Kieffer, 1998).

In the study, the anti-image correlation matrix was first analyzed. This matrix shows the degree to which factors explain each other. While the values on the diagonal of the matrix are an indicator of sampling adequacy, other values off the diagonal represent the partial correlation between variables (Altınışık et al., 2017). During the factor analysis, the values below 0.50 on the diagonal of the anti-image correlation matrix were removed in order from smallest to largest. This exclusion process is due to the fact that the adequacy of the statements below the specified value in the developed scale is significantly low (Özdamar, 2016). In this study, in the factor analysis process, the statements with values less than 0.50 were removed respectively unless they fell below this value and the process was repeated. In addition, statements that were included in more than one factor or not included in any factor were also determined to be removed from the scale.

In the second stage, the rotated component matrix revealed items with factor loadings below 0.30 and items that could not be associated with any factor. If items that are highly correlated with a factor come together, this indicates that these items measure the same concept or factor. If the factor loading value is 0.45 or higher, this is a good selection criterion; however, in practice, this limit value can be reduced to 0.30 for a small number of statements (Büyüköztürk, 2012). In this study, since the aim was to develop a comprehensive scale, statements with factor loadings below 0.30 were excluded from the scale. As a result, 46 of the 109 statements used in the pilot study were eliminated, and as a result of the analysis, these 46 statements were reviewed by two experts on the subject and decided to be removed from the scale with a common opinion. These items are items numbered 3, 11, 14, 27, 36, 38, 44, 51, 52, 55, 56, 57, 58, 59, 60, 62, 63, 65, 66, 67, 69, 72, 74, 75, 76, 77, 78, 80, 81, 82, 83, 85, 87, 89, 90, 93, 100, 101, 102, 103, 104, 105, 106, 107, 108 and 109. While the number of items in the scale was 109 at the beginning, the number of items in the scale decreased to 63 after these 46 items were removed from the scale.

As a result of the factor analysis conducted again for 63 items, the KMO value was found to be 0.822 and the chi-square value was found to be significant ($\chi^2=6979.866$; $p=0.000$) according to Bartlett Sphericity test. As a result, a structure with 63 items and nine factors with eigenvalues greater than 1 was formed. It was also concluded that the instrument explained the total variance with a rate of 53.926% and the items in the sub-factors overlapped with the items in the original form. In the factor analysis results, it was concluded that the items were grouped under a total of 9 factors after rotation. The loading values of the items were between 0.382 and 0.857 and it is very important for validity that these values are above 0.30. However, 32 items were identified that were overlapping in more than one factor, had low item factor loading weights and negatively affected the total explained variance. These items are items numbered 1, 4, 5, 6, 7, 8, 9, 10, 13, 15, 25, 28, 32, 33, 34, 35, 37, 39, 46, 47, 48, 49, 50,

64, 70, 73, 79, 86, 88, 97, 98 and 99. While the number of items in the scale was 63 at the beginning, the number of items in the scale decreased to 31 after these 32 items were removed from the scale.

Factor analysis was applied again for the remaining 31 items in the scale. As a result of the analysis, the KMO value was found to be 0.809 and the chi-square value ($\chi^2=2868.001$; $p=0.000$) was found to be significant according to Bartlett Sphericity test. As a result, a seven-factor structure with 31 items and an eigenvalue greater than 1 was formed. It was also concluded that the scale explained the total variance with a rate of 62.657% and the items in the sub-factors overlapped with the items in the original form. The factor loadings and variance ratios of the scale are shown in Table 4.

Table 4: Factors and Item Loadings of the Seven-Factor Scale after Rotation

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Item 22	0.809						
Item 20	0.779						
Item 21	0.777						
Item 17	0.770						
Item 26	0.762						
Item 16	0.750						
Item 19		0.772					
Item 23		0.748					
Item 24		0.740					
Item 12		0.704					
Item 18		0.685					
Item 2		0.670					
Item 41			0.825				
Item 43			0.818				
Item 40			0.765				
Item 42			0.754				
Item 45			0.682				
Item 92				0.787			
Item 95				0.771			
Item 94				0.722			
Item 91				0.683			
Item 96				0.638			
Item 30					0.843		
Item 31					0.755		
Item 29					0.608		
Item 53						0.846	
Item 54						0.723	
Item 68						0.683	
Item 71							0.791
Item 61							0.768
Item 84							0.601
Eigen Value	6.028	4.024	2.708	2.056	1.791	1.512	1.305
Variance Ratios (%)	19.445	12.980	8.734	6.632	5.776	4.878	4.211
Cumulative Variance (%)	19.445	32.425	41.160	47.792	53.569	58.446	62.657

The factor loadings obtained as a result of the Varimax rotation process are considered bad if they are between 0.32-0.44, normal if they are between 0.45-0.54, good if they are between 0.55-0.62, very good if they are between 0.63-0.70, and excellent if they have a value of 0.70 and above (Dede & Yaman, 2008; Karagöz et al., 2019). When the data in Table 2 are analyzed, it is seen that 2 items change in the “good”, 7 items change in the “very good” and 23 items change in the “excellent” direction and the eigenvalues of the 7 factors obtained are greater than 1.

As a result of the exploratory factor analysis, it was found that the first of the sub-dimensions consisted of 6 items, explained the total variance with a rate of 19.445% and the factor loading values ranged between 0.809 and 0.750. It was observed that the second sub-dimension consisted of 6 items, explained the total variance with a rate of 12.980% and the factor loading values ranged between 0.772 and 0.670.

The third sub-dimension consisted of 5 items, explained the total variance with a rate of 8.734% and the factor loading values ranged between 0.825 and 0.682. The fourth sub-dimension consisted of 5 items, explained the total variance with a rate of 6.632% and the factor loadings ranged between 0.787 and 0.638. It was observed that the fifth sub-dimension consisted of 3 items, explained the total variance with a rate of 5,776% and the factor loadings varied between 0,843 and 0,608. The sixth sub-dimension consisted of 3 items, explained the total variance with a rate of 4.878% and the factor loading values ranged between 0.846 and 0.683. Finally, the seventh sub-dimension consisted of 3 items, explained the total variance with a rate of 4.211% and the factor loading values ranged between 0.791 and 0.601.

The explained variance ratios given in Table 4 are also an important row regardless of the factor analysis method. It is very important that the explained variance exceeds 50% of the total variance. Because if the factor structure created explains less than half of the total variable variance, it would be wrong to talk about its representativeness (Yaşlıoğlu, 2017). It can be said that the total explained variance value of 62.657% is an acceptable value.

One of the important steps to make the results of factor analysis meaningful is to group the items in the same factor under a common title. In order to name the factors correctly, the items should measure a similar construct. Otherwise, while the factor analysis may be numerically consistent, the results obtained may be meaningless.

The items in each factor and their statements are given below:

- **Factor 1: After Sales Services**

Item 22: When choosing a private pension fund, responsive customer service influences my choice of company.

Item 20: The ease of use and features of the online platform of the Private Pension System company influenced my choice of company preference.

Item 21: Prompt and responsive customer support when you have questions or concerns about your investment influenced my choice of company.

Item 17: The frequency and clarity of the mutual fund company's portfolio updates influence my choice of company preference.

Item 26: Providing regular updates and statements on the performance and operations of a private pension portfolio influences my choice of company.

Item 16: Access to financial advisors who can provide personalized investment advice is influential in my choice of company preference.

When Item 22, Item 20, Item 21, Item 17, Item 26 and Item 16 are analyzed, we have named these items as the “**After Sales Services**” factor because they all cover the support, information and communication activities provided to the customer after the service is purchased from the private pension company. Elements such as customer service, ease of online platform, regular information and investment consultancy are the main after sales services that increase investor satisfaction and willingness to stay in the system.

- **Factor 2: Professional Fund Management**

Item 19: The compatibility of the fund's asset allocation with your risk tolerance influences my choice of company preference.

Item 23: The private pension company's communication about risk management strategies and their impact on fund performance influences my choice of company preference.

Item 24: In the pension funds of an individual company, the good track record of the fund is effective in my choice of company preference.

Item 12: The diversity of funds with higher volatility but potentially higher returns influences my choice of company preference.

Item 18: The variety of investment options offered by a private pension fund influences my choice of company.

Item 2: Consistent performance in a variety of market conditions influences my choice of company preference.

Analyzing Item 19, Item 23, Item 24, Item 12, Item 18 and Item 2, we named these items the “**Professional Fund Management**” factor because they all focus on how private pension funds are managed, the quality of investment options, risk management and stability of performance. The risk-return balance, diversification, track record and management strategies of funds reflect investor confidence in professionally managed funds and their influence on company choice.

- **Factor 3: Company Image**

Item 41: The efforts of the private pension company to meet the needs of its customers are effective in my choice of company preference.

Item 43: For a private pension company, ethical business practices and social responsibility positively affect my preference for the company.

Item 40: A private pension company's consistency in its messages in different communication channels influences my choice of company preference.

Item 42: Being familiar with the brand and reputation of the private pension company is effective in my choice of company.

Item 45: The fact that the private pension company is advanced and innovative in adopting new technologies influences my choice of company preference.

When Item 41, Item 43, Item 40, Item 42 and Item 45 are analyzed, we named these items the “**Company Image**” factor because they all reflect the outward perception, reputation, ethical values, innovation and customer-oriented approach of the private pension company. The overall impression and sense of trust that customers have about the company plays an important role in their brand preferences. Therefore, these items are directly related to the company's image.

- **Factor 4: Trust**

Item 92: Transparency in the operations and investments of the private pension company influences my choice of company preference.

Item 95: The accuracy and consistency of the information provided by the private pension company influences my choice of company preference.

Item 94: The level of communication about the fund strategy and changes is influential in my choice of company preference.

Item 91: A private pension fund company recommended by a trusted friend or family member positively influences my choice.

Item 96: Positive customer testimonials and reviews are influential in building your trust in a private pension fund company.

When Item 92, Item 95, Item 91 and Item 96 are analyzed, we named these items the “**Trust**” factor because they all contain elements that are effective in building trust in the private pension company. Transparency, accuracy of information, open communication, positive recommendations from the environment and customer references all contribute to investor trust in the company. Therefore, these items are grouped under this name as they reflect trust based evaluations.

- **Factor 5: Experience**

Item 30: The accumulated sector knowledge and insights of the private pension company positively influence my choice of company in my investment decisions.

Item 31: The private pension company's experience in adapting to changing market conditions and legislation is influential in my choice of company preference.

Item 29: The private pension company's long-standing experience in the financial sector positively influences my choice of company when considering investing with them.

When Item 30, Item 31 and Item 29 are analyzed, we named these items the “**Experience**” factor because they all emphasize factors such as the private pension company's sectoral know-how, past experience and ability to adapt to changing conditions. This factor plays a decisive role in company preference, as investors believe that an experienced company will be more reliable and successful.

- **Factor 6: Portfolio Size**

Item 53: The private pension company's efforts to diversify its portfolio assets are influential in my choice of company preference.

Item 54: A private pension company's resource allocation (e.g. research, analysis) according to the size of the portfolio is influential in my choice of company preference.

Item 68: The size and scale of the private pension company's portfolio positively affect my decision to invest with them.

When Item 53, Item 54 and Item 68 are analyzed, we named these items the “**Portfolio Size**” factor because they all emphasize factors such as the scale and diversity of the portfolio managed by the private pension company and the resource allocation based on this size. Large and diverse portfolios give investors more confidence and reinforce the perception of professional management. Therefore, these items are directly related to portfolio size.

- **Factor 7: Diversity of Pension Plans**

Item 71: Providing investment options with different risk-return profiles to meet different investor preferences influences my choice of company preference.

Item 61: The ability to customize your fund portfolio by choosing from a wide range of investment options influenced my choice of company.

Item 84: The fact that a private pension company offers international investment options (e.g. global funds) influences my choice of company preference.

When examining Item 71, Item 61 and Item 84, we named these items the “**Diversity of Pension Plans**” factor because they all refer to the variety of alternatives available to investors, such as different risk-return profiles, customizable options and international investment possibilities. The wide and flexible options make it possible to create pension plans that suit individual needs. This is why these items are grouped under this name, as they highlight the diversity of plans.

The naming and item numbers of the 7-factor structure formed by taking into account the items in the factor and the constructs that make up these items are summarized in Table 5.

These factors are named as “After Sales Services”, “Professional Fund Management”, “Company Image”, “Trust”, ‘Experience’, “Portfolio Size” and “Diversity of Pension Plans”.

Table 5: Factor Names and Items in Factors

Factors	Item Numbers
F1: After Sales Services	22, 20, 21, 17, 26, 16
F2: Professional Fund Management	19, 23, 24, 12, 18, 2
F3: Company Image	41, 43, 40, 42, 45
F4: Trust	92, 95, 94, 91, 96
F5: Experience	30, 31, 29
F6: Portfolio Size	53, 54, 68
F7: Diversity of Pension Plans	71, 61, 84

If the Cronbach α coefficient, which is used to measure the reliability of the scale and expresses the internal consistency measure, is less than 0.40, it is decided that the scale is “not reliable”, if it is in the range of 0.40-0.59, the scale is “low reliability”, if it is in the range of 0.60-0.79, the scale is “highly reliable” and if it is in the range of 0.80-1.00, the scale is “high reliability” (Karagöz et al., 2019). In this study, the Cronbach Alpha coefficient of the whole scale and its sub-factors were determined as a result of the analyzes and these values are given in Table 6.

Table 6: Internal Consistency Coefficients for the Scale and Sub-Factors

Factors	Number of Item	Cronbach Alpha Internal Consistency Coefficient (α)
F1: After Sales Services	6 items	0.898
F2: Professional Fund Management	6 items	0.852
F3: Company Image	5 items	0.850
F4: Trust	5 items	0.770
F5: Experience	3 items	0.727
F6: Portfolio Size	3 items	0.658
F7: Diversity of Pension Plans	3 items	0.633
Total	31 items	0.668

According to the data in Table 6, when the Cronbach α coefficients of the sub-dimensions of the developed scale are evaluated, it can be said that Factor 1 is 0.898, Factor 2 is 0.852 and Factor 3 is 0.850 and all three of these factors are highly reliable, while Factor 4 is 0.770, Factor 5 is 0.727, Factor 6 is 0.658 and Factor 7 is 0.633 and these factors are also highly reliable. Finally, when the whole scale was evaluated, it was seen that the overall reliability coefficient of the 31 items in the scale was 0.668. The obtained value of 0.668 shows that the scale is quite reliable.

IV.II. Results of Confirmatory Factor Analysis

Confirmatory factor analysis was conducted to evaluate the construct validity and goodness of fit of the 7-factor structure obtained as a result of the exploratory factor analysis.

The extent to which a designed model fits real data is assessed using fit statistics to determine the construct validity of the model. Many goodness-of-fit statistics are available and there are strengths and weaknesses among them (Bagozzi et al., 1991). When determining the fit between the model and the data, it has been stated that only a few of the goodness-of-fit tests can be used or all of them can be used (Schumacker, 2006). It is stated that there are different types of fit indices, but there is no consensus on which indices should be accepted as standard (Şimşek, 2007; Çapık, 2014). Therefore, it may be misleading to evaluate how well or poorly the model fits the reality based on a single statistic. In order to make an accurate comment on this issue, it is necessary to examine multiple statistics together in the light of their own conditions and the characteristics of the model (Byrne, 2011; Karagöz et al., 2019).

The degrees of freedom (X²/df), CFI (Comparative Fit Index), TLI (NNFI) (Tucker Lewis Index), SRMR (Standardized Root Mean Square Residuals), RMSEA (Root Mean Square Error of Approximation) values of a scale provide limits on whether the scale is validated with the data obtained from the sample. The obtained model fit goodness of fit values are presented in Table 7.

Table 7: Model Fit Indexes

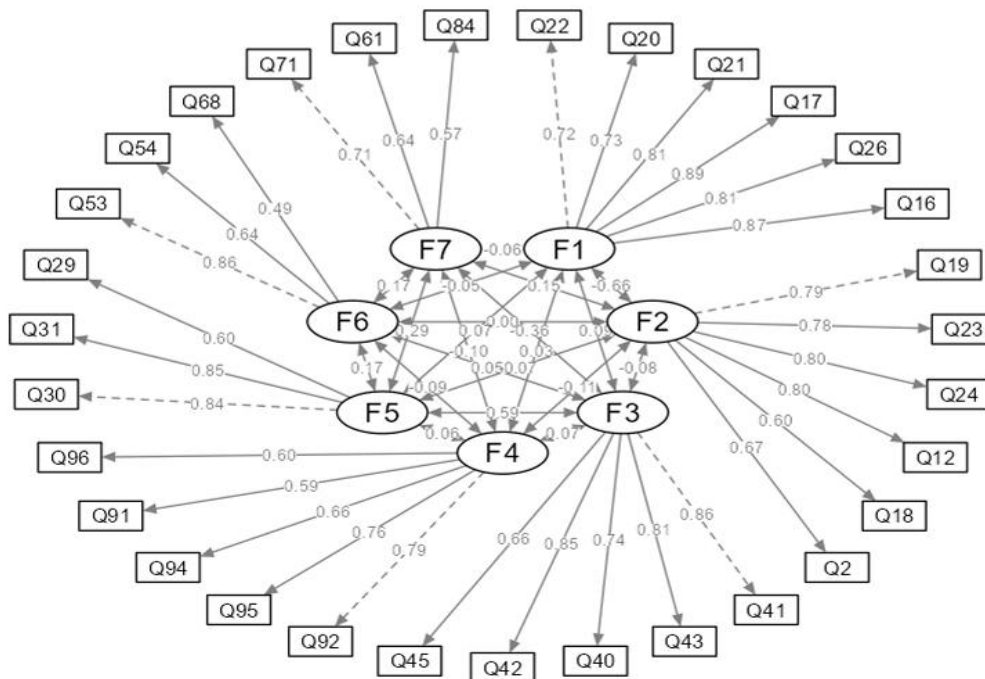
Fit Index	Good Fit	Acceptable Fit	Calculated Value
χ^2/df	$\chi^2/df < 3$	$3 < \chi^2/df < 5$	1.058
CFI	$CFI \geq 0.95$	$0.90 \leq CFI < 0.95$	0.998
TLI	$TLI \geq 0.95$	$0.90 \leq TLI < 0.95$	0.998
SRMR	$SRMR \leq 0.05$	$0.05 < SRMR \leq 0.10$	0.062
RMSEA	$RMSEA \leq 0.05$	$0.05 < RMSEA \leq 0.08$	0.016

Source: (Erme and Alparslan, 2023).

When the fit indices are examined in Table 7, $\chi^2/df=1.058$, $CFI=0.998$, $TLI=0.998$, $SRMR=0.062$ and $RMSEA=0.016$. When these fit indices are examined, $\chi^2/df < 3$, CFI and TLI values are in the range of 0.95 and 1.00, which comply with good fit criteria (Baumgartner & Homburg, 1996; Bentler, 1980). The SRMR value fits the acceptable fit criteria between 0.05 and 0.10 (Browne & Cudeck, 1993). Finally, since the RMSEA value is less than 0.05, it complies with good fit indices (Kline, 2023; Tabachnick & Fidell, 2007).

The fit indices obtained in the present study indicate an excellent overall model fit. However, these findings should be interpreted with some caution because the EFA and CFA were conducted using the same sample. When the factor structure is explored and subsequently tested in the same sample, the resulting CFA fit indices may appear particularly strong because the model is evaluated using the same data from which the factor structure was initially derived. Therefore, the present CFA findings provide supportive evidence for the proposed seven-factor structure within the current sample, but they should not be regarded as definitive evidence of the generalizability of the factor structure. In scale development and validation research, conducting EFA and CFA on independent samples is recommended because replication of the factor structure in an independent sample provides stronger evidence for the stability and generalizability of the measurement model (Worthington & Whittaker, 2006; Brown, 2015; Kline, 2023). Accordingly, independent-sample validation of the seven-factor structure is recommended as an important direction for future research.

The diagram of the appropriate model for the seven-factor structure obtained by confirmatory factor analysis is given in Figure 2. Since the factor names are long and do not look good in the path diagram, they are abbreviated as F1, F2, F3, F4, F5, F6 and F7.

**Figure 2: JAMOVI Diagram of the Model**

In confirmatory factor analysis, statistically significant regression coefficients are critical for the validity of the model. These coefficients reflect the extent to which the observed variables represent the latent constructs, that is, the strength of the factor loadings. The significance of the relationship between each observed variable and the latent factor is evaluated at the $p < 0.05$ level, which indicates that the variables load correctly on the relevant factors (Karagöz et al., 2016). When evaluated in terms of factor loadings, loadings of 0.60 and above are considered high, and between 0.30-0.59 are considered moderate. Moderate loadings can be taken into consideration in terms of eliminating variables in the analysis process (Kline, 1994; Karagöz et al., 2019). However, according to Hair et al. (2009), it is considered appropriate that the factor loading value of each item in the scale is above 0.50 (Hair et al., 2009). On the other hand, according to Büyüköztürk (2012), it is considered sufficient for this value to be at least 0.45 (Büyüköztürk, 2010; Kartal & Bardakçı, 2018). According to the results of the analysis, p values were found to be below 0.05 in all binary relationships examined, which revealed that the factor loadings were significant. This finding supports that the items are appropriately included in the determined factor structure. Table 8 presents the standardized regression coefficients for the seven-factor model.

Table 8: Standardized Regression Weights for the Seven-Factor Structure

Item-Factor	Standardized Regression Weights	Item-Factor	Standardized Regression Weights
Madde 22 ← F1	0.724	Madde 45 ← F3	0.657
Madde 20 ← F1	0.732	Madde 92 ← F4	0.792
Madde 21 ← F1	0.807	Madde 95 ← F4	0.762
Madde 17 ← F1	0.888	Madde 94 ← F4	0.656
Madde 26 ← F1	0.807	Madde 91 ← F4	0.586
Madde 16 ← F1	0.872	Madde 96 ← F4	0.601
Madde 19 ← F2	0.787	Madde 30 ← F5	0.845
Madde 23 ← F2	0.780	Madde 31 ← F5	0.852
Madde 24 ← F2	0.802	Madde 29 ← F5	0.600
Madde 12 ← F2	0.804	Madde 53 ← F6	0.862
Madde 18 ← F2	0.598	Madde 54 ← F6	0.645
Madde 2 ← F2	0.671	Madde 68 ← F6	0.490
Madde 41 ← F3	0.860	Madde 71 ← F7	0.707
Madde 43 ← F3	0.812	Madde 61 ← F7	0.641
Madde 40 ← F3	0.738	Madde 84 ← F7	0.567
Madde 42 ← F3	0.849		

When Table 8 is examined, it is seen that the factor loadings of the latent variables named F1, F2, F3, F4, F5, F6 and F7 vary between 0.724 and 0.888; 0.598 and 0.804; 0.657 and 0.860; 0.586 and 0.792; 0.600 and 0.852; 0.490 and 0.862; and 0.567 and 0.707, respectively. In line with these findings, it can be stated that the seven-factor structure that emerged as a result of the exploratory factor analysis was validated by confirmatory factor analysis. Nevertheless, given that both EFA and CFA were conducted on the same sample, this conclusion is stated cautiously and is limited to the evidence obtained from the current sample. The CFA results support the seven-factor structure, but replication using an independent sample would provide stronger evidence regarding the stability and generalizability of the factor structure (Worthington & Whittaker, 2006; Brown, 2015; Kline, 2023). Therefore, the obtained goodness-of-fit indices show that this scale presents a good model and is a valid measurement tool in terms of factor structures.

One of the criteria frequently used in the evaluation of construct validity is the value known as AVE (Average Variance Extracted) in the literature. According to Hair et al. (2009), AVE is calculated by taking the average of the squared standardized factor loadings of the items belonging to a factor. When the AVE values obtained in this study were examined, they were found to be 0.652 for Factor 1, 0.554 for Factor 2, 0.619 for Factor 3, 0.468 for Factor 4, 0.600 for Factor 5, 0.466 for Factor 6, and 0.410 for Factor 7.

Another important criterion used to assess construct validity is the CR (Construct Reliability) values calculated for the factors. CR reflects the reliability of each latent construct and provides

complementary information to AVE when evaluating the measurement model (Raykov, 1997; Hair et al., 2019).

For convergent validity to be sufficient, the AVE value is commonly expected to be greater than 0.50 (Karaman, 2023; Shrestha, 2021). At the same time, composite reliability should be greater than the AVE ($CR > AVE$) (Fornell & Larcker, 1981; Sharif-Nia et al., 2020; Ernest et al., 2019; Hair et al., 2011; Singh & Kaur, 2016). However, Fornell & Larcker (1981) noted that an AVE value below 0.50 may still be acceptable when the composite reliability is sufficiently high. Therefore, AVE should not be interpreted in isolation; rather, it should be considered together with composite reliability and the overall pattern of evidence regarding the measurement model (Fornell & Larcker, 1981; Hair et al., 2019). Finally, CR values are expected to be higher than 0.60 (Edeş & Çalık, 2020).

Although the AVE values of Factor 4, Factor 6, and Factor 7 were below 0.50 (0.468, 0.466, and 0.410, respectively), their CR values were greater than 0.60, providing supportive evidence for the reliability of these constructs. Although these three factors did not meet the conventional 0.50 AVE criterion, the extent of the deviations for Factors 4 and 6 was relatively small, while Factor 7 showed a comparatively lower AVE value. Thus, these results warrant a cautious interpretation rather than indicating an automatic failure of convergent validity. When considered together with the CR values and the other evidence supporting the measurement model, the findings provide overall supportive evidence for convergent validity, while the AVE values below 0.50 for Factors 4, 6, and 7 should be acknowledged as a limitation of the present measurement model. Since the AVE values of the other factors were greater than 0.50, these factors met the conventional criterion for convergent validity. In addition, it was observed that the CR values obtained for all factors were greater than the corresponding AVE values. Finally, the CR values for all factors were greater than 0.60. Taken together, these findings suggest that the scale demonstrates generally adequate convergent validity, although the AVE values of Factors 4, 6, and 7 indicate that the evidence for convergent validity is somewhat weaker for these factors compared with the remaining factors.

V.CONCLUSION AND RECOMMENDATIONS

The private pension system (PPS) is designed as a supplementary mechanism to the public social security structure. Its primary objectives are to alleviate the financial burden on public pension schemes and to foster economic growth through the enhancement of domestic savings. Furthermore, the system seeks to enable individuals to sustain a standard of living in retirement comparable to that enjoyed during their working years. Given the financial and structural challenges that have emerged within public pension systems over time, private pension schemes have been increasingly proposed as alternative solutions—particularly in instances where the principles of the welfare state are insufficiently upheld. These schemes are implemented in various forms across different countries, typically structured as salary-based or premium-based programs.

Throughout the life course, individuals are susceptible to social risks such as unemployment, old age, and disability, all of which may result in income loss. Within this context, the PPS contributes to economic development by directing individual savings into financial markets, thereby supporting investment activities. As such, it assumes a pivotal role within the financial system by generating economic benefits, including increased production, improved employment rates, and the encouragement of new savings.

A review of the extant literature on the PPS indicates a paucity of comprehensive studies that holistically examine both the supply and demand dimensions of the system. On the demand side, findings reveal a lack of adequate and accurate information available to individuals regarding the system. Consequently, the motivations underlying investment decisions and the degree to which the system fulfills participants' expectations remain unclear. On the supply side, significant issues include the inability of banks and intermediary institutions to accurately identify their target demographics, formulate effective marketing strategies, and utilize resources efficiently.

Private pension companies operate within a highly competitive environment, striving to attract a greater number of participants. In response, these companies seek to enhance their service offerings by analyzing the factors contributing to competitor preference. Strategic initiatives include improving pension fund returns, diversifying and increasing the flexibility of pension plans, strengthening digital

infrastructures, and enhancing customer communication. Such efforts aim to increase customer satisfaction, foster loyalty among existing clients, and attract new participants.

The present study aims to develop a measurement scale to identify the factors influencing company preference among university graduates and employees aged 25–35 who are considering voluntary participation in the PPS. Data were collected from 220 respondents and subjected to the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity to evaluate sampling adequacy. Initially, 83 items were eliminated from an item pool of 192 based on expert judgment, resulting in a preliminary instrument comprising 109 items. These items were administered to participants, and the resultant data were analyzed. Exploratory Factor Analysis (EFA) was first applied, leading to the exclusion of unsuitable items and the emergence of a seven-factor structure encompassing 31 items. The identified factors were labeled as: "After-Sales Services," "Professional Fund Management," "Company Image," "Trust," "Experience," "Portfolio Size," and "Diversity of Pension Plans."

The final seven-factor structure explained 62.657% of the total variance, while the factor loadings ranged from 0.601 to 0.846. These findings indicate that company preference in the voluntary PPS context is multidimensional rather than being determined solely by financial performance. In particular, the results suggest that investors evaluate not only fund management and investment alternatives but also the quality of post-purchase services, corporate reputation, trust, organizational experience, portfolio characteristics, and the diversity of available pension plans.

The seven-factor structure derived from the EFA was subsequently evaluated through Confirmatory Factor Analysis (CFA). The fit indices obtained indicated that the model demonstrated a strong overall fit ($\chi^2/df = 1.058$, CFI = 0.998, TLI = 0.998, SRMR = 0.062, and RMSEA = 0.016). These findings provide empirical support for the proposed seven-factor measurement structure within the present sample.

The findings also provide several important practical implications for private pension providers. The prominence of After-Sales Services suggests that companies should not view customer acquisition as the endpoint of the relationship but should continuously support participants through responsive customer service, accessible digital platforms, clear portfolio information, and personalized financial guidance. Similarly, the Professional Fund Management factor indicates that communicating fund performance, risk management practices, asset allocation, and investment alternatives in a clear and comprehensible manner may strengthen consumers' perceptions of the quality of the provider.

The emergence of Trust and Company Image as distinct dimensions is also noteworthy because participation in private pension arrangements involves long-term financial commitments and uncertainty about future outcomes. This finding is consistent with van Dalen and Henkens (2018), who demonstrated that trust in pension providers is shaped by perceptions of provider integrity, competence, stability, and benevolence, highlighting the importance of provider characteristics in establishing and maintaining participants' trust. Previous research has shown that trust in financial institutions is positively associated with participation in private pension schemes and retirement-related financial decisions (Ricci & Caratelli, 2017; Fisch & Seligman, 2022). Accordingly, transparency, consistency of information, ethical conduct, institutional reputation, and credible communication should be regarded as strategic components of PPS provider positioning rather than merely as promotional activities.

To assess internal consistency and reliability, Cronbach's alpha coefficients were computed for both the entire scale and each individual factor. The results demonstrated high reliability for the first three factors and acceptable-to-good internal consistency for the remaining four factors. The overall Cronbach's alpha value for the scale was calculated as 0.668, while the coefficients of the seven factors ranged from 0.633 to 0.898. These results provide evidence of satisfactory internal consistency at the factor level, although the relatively lower coefficients of some three-item dimensions warrant further examination in future studies.

The results further indicate that the scale can serve as a structured diagnostic instrument for understanding how potential participants evaluate private pension companies. Rather than relying exclusively on demographic segmentation, providers may use the seven dimensions to identify the service, investment, trust, and product characteristics that require improvement among their target

customers. This approach may contribute to more differentiated marketing strategies and to the development of pension products that better correspond to consumers' risk preferences, information needs, and expectations.

The developed scale is therefore considered a useful measurement instrument for determining the criteria that influence individual preferences in selecting a private pension company. Nevertheless, the instrument should be regarded as an empirically supported scale that requires further replication and validation rather than as a universally generalizable measurement tool.

Given the evolving nature of individual pension plans, which are continuously refined in response to growing consumer demands and expectations, it is imperative for private pension companies to closely monitor both current and potential participants. This involves analyzing shifts in participant profiles and tailoring marketing strategies accordingly to enhance competitiveness and ensure long-term sustainability. In this respect, the findings suggest that competitiveness in the voluntary PPS market may depend on an integrated strategy combining investment quality, customer experience, institutional trust, corporate reputation, and product flexibility. This interpretation is consistent with recent evidence showing that trust and financial knowledge are important correlates of financial market and retirement-related participation (Fisch & Seligman, 2022).

A limitation of this study is the restricted demographic scope, focusing solely on university graduates and employees aged 25–35. MacCallum et al. (1999) contend that a sample size of 100–200 may suffice for factor analysis when factor loadings are high and the sample is relatively homogeneous. However, for structurally weaker models, a sample of 300 or more is generally recommended. In this study, the sample of 220 was considered adequate given time constraints and challenges in data collection. According to the scale classification by Comrey and Lee (1992), this sample size is categorized as moderate. Furthermore, the participation rate among students from faculties other than the Faculty of Science and Letters was low. Future studies targeting more diverse demographic and socio-economic groups may uncover additional factors influencing pension company selection. Such investigations would offer valuable strategic insights for both incumbent private pension providers and new market entrants. Comparative studies conducted across different regions could also illuminate local dynamics underlying variations in consumer preferences.

An additional methodological limitation concerns the use of the same sample for both EFA and CFA. Although the CFA results provided supportive evidence for the seven-factor structure and indicated good overall model fit within the current sample, the use of the same sample for factor exploration and subsequent confirmation may result in comparatively optimistic fit estimates. Therefore, the findings should be interpreted cautiously and should not be considered definitive evidence of the generalizability of the factor structure. In addition, the relatively modest sample size ($n = 220$) may limit the generalizability of the findings to broader populations. Accordingly, future studies should replicate and validate the seven-factor structure using larger and independent samples, preferably across more diverse demographic and socio-economic groups. Such independent-sample validation would provide stronger evidence regarding the stability and generalizability of the measurement model (Worthington & Whittaker, 2006; Brown, 2015; Kline, 2023).

Overall, the present study contributes to the PPS literature by providing a multidimensional measurement framework that brings together service-related, investment-related, organizational, and trust-related determinants of private pension company preference. Future research should examine the predictive validity of the scale by testing whether scores on these seven dimensions are associated with actual company choice, switching intentions, customer loyalty, or continued participation in the PPS. Longitudinal and cross-regional studies using independent and larger samples would further strengthen the evidence for the stability, generalizability, and practical usefulness of the proposed scale.

Ethics Statement	<i>For the purpose of conducting the survey research in this study, ethics committee approval was obtained from the Mimar Sinan Fine Arts University Science and Engineering Scientific Research and Publication Ethics Committee, dated 10.06.2024, with decision number E-32128941-050.04-170667. All procedures conducted in this study were carried out in accordance with the principles of research and publication ethics. We declare that all ethical principles and rules were strictly observed at every stage of the preparation of this study. In the event of any ethical violation, ÖHÜİBF Journal bears no responsibility, and all responsibility rests solely with us, the authors.</i>
Authors' Contributions	<i>The authors contributed equally to the manuscript.</i>
Conflict of Interest	<i>The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript and there is no financial interest to report. The authors also certify that the submission is original work and is not under review at any other publication.</i>
Acknowledgement (if any)	<i>We would like to express our sincere thanks to the reviewers and editors.</i>

REFERENCES

- Acuner, S. (2018). Bireysel emeklilik aracılığı ve vergi kanunları karşısındaki durumu. *AİBÜ Sosyal Bilimler Enstitüsü Dergisi*, 18(3), 49–76.
- Açıkgöz, Ö., & Bilir, M. K. (2018). Bireysel emeklilik sistemi ve etkili iletişim biçimi olarak reklam. *Etkileşim*, 2, 174-185.
- Akgeyik, T. (2010). Sosyal güvenlikte reform eğilimleri: Geleneksel sistemlerden bireysel emeklilik programlarına dönüşüm. *Journal of Social Policy Conferences*, 51, 47-99.
- Akgün, M. K., & Bozkurt, Ö. (2023). Bireysel emeklilik sistemindeki katılımcıların memnuniyet ve güven algılarının incelenmesi. *Çalışma İlişkileri Dergisi*, 14(1), 1-19.
- Akpınar, Ö. (2018). Sigorta Sektöründe Müşteri İlişkileri Yönetimi ve Uygulamaları. *Finansal Araştırmalar ve Çalışmalar Dergisi*, 10(18), 1-19.
- Akpınar, Ö. (2023). Sigorta müşteri ilişkileri yönetiminde yeni dönemin ipuçları. In H. Meral (Ed.), 21. yüzyılda Türk sigorta sektörüne 21 tavsiye (pp. 171–186). Nobel Bilimsel Eserler, Ankara: Turkey.
- Albay, Y. N. (2010). Geleneksel pazarlamadan yeni pazarlama yaklaşımlarına geçiş süreci. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 15(2), 213–235.
- Alessie, R., van Rooij, M., & Lusardi, A. (2011). Financial literacy and retirement preparation in the Netherlands. *Journal of Pension Economics and Finance*, 10(4), 527–545.
- Altıntaş, K. M. (2009). Belirlenmiş katkı esaslı emeklilik planlarında finansal eğitimin önemi: Katılımcıların finansal okur yazarlığı çerçevesinde alternatif bir yatırım eğitimi modeli. *Uluslararası Yönetim İktisat ve İşletme Dergisi*, 5(9), 151–176.
- Altunışık, R., Coşkun, R., & Yıldırım, E. (2017). Sosyal bilimlerde araştırma yöntemleri. Sakarya Yayıncılık, Sakarya: Turkey.
- Apak, S., & Taşçıyan, K. A. (2009). Morningstar yıldız derecelendirme sistemi ile Türk emeklilik yatırım fonlarının performanslarının değerlendirilmesi. *Muhasebe ve Finansman Dergisi*, 44, 80-91.
- Aren, S., Dinç-Aydemir, S., & Uçar, A. R. (2015). Bireysel emeklilik fon tercihlerini etkileyen unsurlar üzerine bir çalışma. *Maliye ve Finans Yazıları*, 1(103), 21-50.
- Arslan, R., & Filiz, M. (2020). Sağlık eğitimi alan öğrencilerin Covid-19 salgınına yönelik algılarının değerlendirilmesi. *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 21(2), 1-18.
- Ayaydın, H. (2013). Türkiye’de emeklilik yatırım fonlarının performanslarının analizi. *Ç.Ü. Sosyal Bilimler Enstitüsü Dergisi*, 22(2), 59-80.

- Aydın, A. E., & Selçuk, E. A. (2017). Türkiye’de bireysel emeklilik sistemine katılım kararını etkileyen faktörler. *Finans Politik ve Ekonomik Yorumlar*, 54(632), 27-37.
- Aydın, E., & Kaplan, E. (2014). Bireysel emeklilik sisteminin vergi uygulamaları bakımından değerlendirilmesi. *Marmara Üniversitesi İ.İ.B. Dergisi*, 36(2), 93-114.
- Bagozzi, R. P., Yi, Y., & Philips, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36(3), 421-458.
- Bağlan, C. (2006). Dünyada ve Türkiye’de bireysel emeklilik sistemi (Unpublished master's thesis). Dumlupınar University, Social Sciences Institute, Kütahya.
- Bartlett, M. S. (1954). A note on the multiplying factors for various χ^2 approximations. *Journal of the Royal Statistical Society: Series B (Methodological)*, 16(2), 296-298.
- Başar, S., Eren, M., & Bozma, G. (2016). Bireysel emeklilik, tasarruf oranı ve cari açık arasındaki ilişkiler: OECD ülkeleri üzerine bir uygulama. *International Conference on Eurasian Economies, Session 2 D, Finance II*, 591-597.
- Başaran, S., & Alagöz, M. (2003). Bilişim teknolojileri, bankacılık sektörü ve pazarlamada yeni yaklaşım: CRM. *Active Bankacılık Dergisi*, 32, 1-10.
- Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing*, 13(2), 139-161.
- Bayar, Y., & Kılıç, M. (2014). Küresel finansal krizin Türkiye’de bireysel emeklilik sistemine etkileri. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, 3(2), 246-264.
- Bentler, P. M. (1980). Multivariate analysis with latent variables: Causal modeling. *Annual Review of Psychology*, 31, 419-456.
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). Guilford Press, New York: USA.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Sage, Beverly Hills, CA: USA.
- Bucher-Koenen, T., & Lusardi, A. (2011). Financial literacy and retirement planning in Germany. *NBER Working Paper Series, Working Paper 17110*.
- Büyüköztürk, Ş. (2012). *Sosyal bilimler için veri analizi el kitabı*. Pegem Akademi, Ankara: Turkey.
- Byrne, B. M. (2011). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (Multivariate applications series). Routledge, New York: USA.
- Can, Y. (2010). Bireysel emekliliğin Türkiye’deki durumu ve gelişimi. *Ekonomi Bilimleri Dergisi*, 2(2), 139-146.
- Can, Y., & Eyidiker, U. (2019). Bireysel emeklilik sisteminde otomatik katılımın Türkiye’de gelişiminin izlenmesi. *Finans Ekonomi ve Sosyal Araştırmalar Dergisi*, 4(4), 626-642.
- Canöz, İ., & Baş, H. (2020). Bireysel emeklilik sistemine giriş kararlarını belirleyen etmenler: Devlet ve vakıf üniversitelerinde çalışan akademisyenlerin karşılaştırılması. *Sosyal Siyaset Konferansları Dergisi*, 78, 361-390.
- Ceylan, Z., Gürsev, S., & Bulkan, S. (2017). İki aşamalı kümeleme analizi ile bireysel emeklilik sektöründe müşteri profilinin değerlendirilmesi. *Bilişim Teknolojileri Dergisi*, 10(4), 475-485.
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64-73.
- Clark, R. L., & Schieber, S. J. (1998). Factors affecting participation and contribution levels in 401(k) plans. In O. S. Mitchell & S. J. Schieber (Eds.), *Living with defined contribution pensions* (pp. 69-97). Pension Research Council and the University of Pennsylvania Press, Philadelphia, PA: USA.
- Coan, R. W. (1959). A comparison of oblique and orthogonal factor solutions. *The Journal of Experimental Education*, 27(3), 151-166.

- Comrey, A. L., & Lee, H. B. (1992). A first course in factor analysis (2nd ed.). Lawrence Erlbaum Associates, Hillsdale, NJ: USA.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78(1), 98-104.
- Coviello, A., & Di-Trapani, G. (2012). The customer satisfaction in the insurance industry. *Social Science Research Network*. <http://dx.doi.org/10.2139/SSRN.2144684>
- Çapık, C. (2014). Geçerlik ve güvenilirlik çalışmalarında doğrulayıcı faktör analizinin kullanımı. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*, 17(3), 196–205.
- Çolak, M. (2012). Ulusal ve uluslararası düzeyde bireysel emeklilik sistemlerinde vergileme anlayışı ve öneriler. *Akademik Yaklaşımlar Dergisi*, 3(1), 74-105.
- Çömlekçi, İ., & Gökmen, O. (2017). Bireysel emeklilik sistemine katılmada etkili olan faktörler: TR42 bölgesinde bir araştırma. *Uluslararası Sosyal Araştırmalar Dergisi*, 10(49), 579-588.
- Dağlı, H., Bank, S., & Er, B. (2008). Türkiye’deki bireysel emeklilik yatırım fonlarının performans değerlendirmesi. *Muhasebe ve Finansman Dergisi*, 40, 84-95.
- Dede, Y., & Yaman, S. (2008). Fen öğrenmeye yönelik motivasyon ölçeği: Geçerlik ve güvenilirlik çalışması. *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi (EFMED)*, 2(1), 19–37.
- DeVellis, R. F. (2021). Ölçek geliştirme: Kuram ve uygulamalar. Nobel Akademik Yayıncılık, Ankara: Turkey.
- Dikeçligil, B. (2006). Sosyal bilimler epistemolojisinde sorunların kaynağı: Ontolojiyi unutmak. *Toplum Bilimleri*, 1(3), 47-67.
- Doğan, M. (2016). Davranışsal finans eğilimleri ile bireysel emeklilik fon tercihleri arasındaki ilişkinin test edilmesi: Türkiye’deki banka çalışanları üzerine bir uygulama. *Uluslararası Yönetim İktisat ve İşletme Dergisi ICAFR Özel Sayısı*, 339-357.
- Doğan, N., Soysal, S., & Karaman, H. (2017). Aynı örnekleme açımlayıcı ve doğrulayıcı faktör analizi uygulanabilir mi? In Ö. Demirel & S. Dinçer (Eds.), *Küreselleşen dünyada eğitim* (pp. 373–400). Pegem Akademi, Ankara: Turkey.
- Duman, Ş. (1990). Türk sigorta sektöründe boş kapasiteler ve ekonomik kayıplar. *Bilaraş*, İstanbul: Turkey.
- Durmaz, Y., & Bahar Oruç, R. (2011). Tüketicilerin satın alma davranışı üzerinde sosyolojik faktörlerin etkisinin incelenmesine yönelik bir çalışma. *Elektronik Sosyal Bilimler Dergisi*, 10(37), 60-77.
- Durmuşkaya, C., & Erdoğan, E. (2021). Çalışma hayatı kalitesi ölçeği önerisi. *Yönetim ve Ekonomi Araştırmaları Dergisi*, 19(3), 139–172.
- Edeş, U., & Çalık, E. (2020). İmalat işletmelerinin sürdürülebilir süreç inovasyon performansının ölçümü için ölçek geliştirme. *Journal of Entrepreneurship and Innovation Management*, 9(2), 1-24.
- Ege, İ. (2002). Dünyada özel emeklilik sistemleri ve bireysel emeklilik tasarruf ve yatırım sistemi kanununa eleştirel bir bakış. *İktisat, İşletme ve Finans Dergisi*, 17(196), 81-91.
- Eken, M. H., & Gaygısız, H. (2010). Bireysel emeklilik şirketlerinde risk yönetimi ve Türkiye örneği. *Maliye ve Finans Yazıları*, 1(88), 55-78.
- Erdem, T. (2013). Bireysel emeklilik sistemine yönelik değişikliklerin eleştirisi “bireysel”e devlet katkısı anayasanın 73’üncü maddesinde belirtilen vergi ödeviyle karşılanabilecek nitelikte bir “kamu gideri” midir? *Türkiye Barolar Birliği Dergisi*, 104, 73-116.
- Eren, M.V., & Çütcü, İ. (2021). Sigortacılık sektörü ile seçili makroekonomik değişkenler arasındaki ilişkinin ampirik analizi: Türkiye örneği. *Türk Sosyal Bilimler Araştırmaları Dergisi*, 6(2), 130-140.
- Erme, T., & Alparslan, A. M. (2023). Kadın akademisyenlerin çalışma yaşamı kalitesi ölçeği’nin geliştirilmesi: Geçerlik ve güvenilirlik çalışması. *Yükseköğretim ve Bilim Dergisi*, 13(1), 19-31.

- Ernest, O. N., King, B. D., Esther, A., Kwadwo, A. N., & AY, A. R. (2019). The effect of lean operations in manufacturing on firm performance: the case of manufacturing firms in ACCRA. *International Journal of Engineering Research and Reviews*, 7(2), 1-7.
- Erol, A., & Yıldırım, A. (2004). Tüm yönleriyle bireysel emeklilik sistemi. Yaklaşım Yayınları, İstanbul: Turkey.
- Ertuğrul, İ., & Öztaş, T. (2016). Bireysel emeklilik planı seçiminde karar verme yöntemlerinin uygulanması: Copras ve topsis örneği. *ÇKÜ Sosyal Bilimler Enstitüsü Dergisi*, 7(2), 165-186.
- Fisch, J. E., & Seligman, J. S. (2022). Trust, financial literacy, and financial market participation. *Journal of Pension Economics and Finance*, 21(4), 634-664.
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Fornero, E., & Monticone, C. (2011). Financial literacy and pension plan participation in Italy. *Journal of Pension Economics and Finance*, 10(4), 547-564.
- Gökgöz, F. (2007). Bireysel emeklilik fonlarının performans değerlendirmesi. *HÜ İktisadi ve İdari Bilimler Fakültesi Dergisi*, 25(1), 259-291.
- Göktolga, Z. G., & Karakış, E. (2018). Bireysel emeklilik şirketlerinin finansal performanslarının bulanık AHP ve vikor yöntemi ile analizi. *CÜ İktisadi ve İdari Bilimler Dergisi*, 19(1), 92-108.
- Gülay, T., Işık, M., & Öztürk, M. (2017). Türkiye’de bireysel emeklilik sistemi ve akademisyenlerin otomatik katılıma bakış açılarına ilişkin bir analiz: Süleyman Demirel Üniversitesi Örneği. *İş ve Hayat Dergisi*, 3(6), 179-205.
- Günel, Y., & Bircan, H. (2022). Bireylerin konut finansman tercihlerini belirlemeye yönelik ölçek geliştirilmesi. *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 23(3), 709-725.
- Güneş, H. (2015). Bireylerin bireysel emeklilik sistemine yönelik tutum ve davranışları: Karabük ilinde bir alan araştırması (Unpublished master's thesis). Karabük University, Social Sciences Institute, Karabük.
- Hair, J. F., Black, W. C., Anderson, R. E., & Babin, B. J. (2009). *Multivariate data analysis* (7th ed.). Prentice Hall, New Jersey: USA.
- Hair, J.F., Ringle, C.M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-151.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24.
- Haladyna, T. M. (1999). *Developing and validating multiple-choice exam items* (2nd ed.). Lawrence Erlbaum Associates, Mahwah, NJ: USA.
- Hanağası, E. (2015). Bireysel emeklilik sisteminde haciz uygulamalarının değerlendirilmesi. *Dokuz Eylül Üniversitesi Hukuk Fakültesi Dergisi*, 16, 2631-2698.
- Henson, R. K., & Roberts, J. K. (2006). Exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement*, 66(3), 393-416.
- Huberman, G., Iyengar, S. S., & Jiang, W. (2007). Defined contribution pension plans: Determinants of participation and contribution rates. *Journal of Financial Services Research*, 31(1), 1-32.
- Ivanovic, A. (2003). *Dictionary of marketing* (3rd ed.). Bloomsbury Publishing Plc, London: England.
- İlgin, H. U. (2012). Bireysel emeklilik sistemi ile ekonomik göstergeler arasındaki ilişkinin incelenmesi. *Mali Çözüm Dergisi*, 22(110), 71-93.
- İşbilen, E. (2008). Bireysel emeklilik sistemi ve Türkiye uygulaması (Unpublished master's thesis). Yıldız Technical University, Social Sciences Institute, İstanbul.

- İşseveroğlu, G., & Hatunoğlu, Z. (2012). Türkiye’de bireysel emeklilik sisteminin makro ekonomik dinamiklere etkisi kapsamında swot analizi. *Muhasebe ve Finansman Dergisi*, 56, 155-174.
- Johnson, R. A., & Wichern, D. W. (2014). *Applied multivariate statistical analysis* (6th ed.). Pearson, Harlow: England.
- Kabataş, Y., & Gülay, A. (2022). Devlet katkısı uygulamasının Türkiye bireysel emeklilik sistemi üzerindeki etkisi. *Öneri Dergisi*, 17(58), 492-515.
- Kaiser, H. F., & Rice, J. (1974). Little Jiffy, Mark IV. *Educational and Psychological Measurement*, 34(1), 111–117.
- Kar, M., & Elveren, A. Y. (2008). Özel emeklilik sistemlerinde cinsiyete dayalı gelir farkı: Türkiye örneği. *TİSK Akademi*, 3(5), 68-99.
- Kara, S., & Yıldız, Y. (2016). Türkiye’de bireysel emeklilik sistemi: 2012 sonrası yapılan reformlar ve beklentiler. *İşletme ve İktisat Çalışmaları Dergisi*, 4(1), 23-45.
- Karagöz, S. (1991). Faktör analizi tekniği kullanarak üniversite öğrencilerinin gazete tercihinde etkin faktörlerin belirlenmesi (Unpublished master's thesis). İstanbul University, Social Sciences Institute, İstanbul.
- Karagöz, Y. (2016). SPSS 23 ve Amos 23 uygulamalı istatistiksel analizler. Ankara: Nobel Akademik Yayıncılık.
- Karagöz, Y., Demir, M., & Günel, Y. (2019). Araç kasko sigortası yaptırırken şirket seçimini etkileyen faktörlerin tespitine yönelik ölçek geliştirilmesi. *Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 22(42), 227-254.
- Karagöz, Y., Kınır, S., & Güvendi, F. (2016). Yapısal eşitlik modellemesi ile hasta memnuniyeti ölçeğinin geliştirilmesi. *Bartın Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 7(13), 140–158.
- Karakaya, A., Kurtaran, A., & Dağlı, H. (2014). Bireysel emeklilik şirketlerinin veri zarflama analizi ile etkinlik ölçümü: Türkiye örneği. *Yönetim ve Ekonomi Araştırmaları Dergisi*, 12(22), 1-23.
- Karaman, M. (2023). Keşfedici ve doğrulayıcı faktör analizi: Kavramsal bir çalışma. *Uluslararası İktisadi ve İdari Bilimler Dergisi*, 9(1), 47-63.
- Kartal, M., & Bardakçı, S. (2018). SPSS ve AMOS uygulamalı örneklerle güvenirlik ve geçerlik analizleri. Akademisyen Kitabevi, Ankara: Turkey.
- Kaya, H. (2021). Sigortacılıkta uygulanan alternatif risk transfer sistemleri üzerine bir inceleme (Master's thesis). Karabük University, Graduate School of Education, Karabük.
- Kayam, S. S., Parkın, M. K., & Çeliktöpus, M. (2013). Features that influence the exit decision from the private pension system in Turkey. MPRA Paper 50933, University of Munich, Germany.
- Kayhan, R. F., Bardakçı, S., & Caz, Ç. (2020). Türk futbolunda video yardımcı hakem (VAR) uygulamasına yönelik tutum ölçeği geliştirilmesi. *OPUS–Uluslararası Toplum Araştırmaları Dergisi*, 16(27), 571–596.
- Kırmızı, E., & Hüseyinli, N. (2019). Sosyal güvenlik hakkının geleceği üzerine bir değerlendirme. *Çalışma ve Toplum*, 2(61), 1203-1236.
- Kieffer, K. M. (1998). Orthogonal versus oblique factor rotation: A review of the literature regarding the pros and cons. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Kline, P. (1994). *An easy guide to factor analysis*. Routledge, London: England.
- Kline, R. B. (2023). *Principles and practice of structural equation modeling* (5th ed.). Guilford Press, New York: USA.
- Koban, H. (2008). Bireysel emeklilik sisteminde pazarlama: tüketici algıları üzerine bir araştırma (Unpublished Master's Thesis). Sakarya University, Social Sciences Institute, Sakarya.

- Kocabıyık, T., & Küçükçakal, Z. (2018). Private pension system in Turkey and reasons for the withdrawal of workers from automatic enrollment: A case study in the Isparta province. *Journal of Life Economics*, 5(4), 233–254.
- Korkmaz, E. (2007). Sosyal güvencilikte yeni yaklaşım: Bireysel emeklilik. Yayın No: 2006-21. İstanbul Ticaret Odası Yayınları, İstanbul: Turkey.
- Korkmaz, T., & Uygurtürk, H. (2007a). Türkiye’de emeklilik fonlarının performans ölçümü ve fon yöneticilerinin zamanlama yeteneği. *Akdeniz İİBF Dergisi*, 7(14), 66-93.
- Korkmaz, T., & Uygurtürk, H. (2007b). Türk emeklilik fonlarının performans ölçümünde regresyon analizinin kullanılması. *ZKÜ Sosyal Bilimler Dergisi*, 3(5), 37-52.
- Kotler, P., & Armstrong, G. (2004). *Principles of marketing* (10th ed.). Prentice Hall, Upper Saddle River, NJ: USA.
- Kuran, İ. (2022). Bireysel emeklilik sistemine katılımı etkileyen faktörler: Türkiye için lojistik regresyon analizine dayalı bir değerlendirme. In İ. Kuran (Ed.), *Küresel ekonomik düzende dünya ve Türkiye’den araştırmalar-II* (pp. 165–202). İksad Yayınevi, Ankara: Turkey.
- Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, 28(4), 563–575.
- Lusardi, A., & Mitchell, O. (2007). Financial literacy and retirement planning: New evidence from the Rand American Life Panel. Michigan Retirement Research Center Research Paper No. WP, 136–157.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4(1), 84–99.
- Meral, H. (2021). Tüketim çağında sigorta müşterisinin beklentisini anlamak. In S. Yazıcı (Ed.), *FinTech ve insurtech ile finansın dönüşümü: Dijital ekonomide geleceği yaratan 5 temel değişim* (pp. 131–144). MediaCat Yayınları, İstanbul: Turkey.
- Meral, H. (2023). Türk sigortacılığının yüz yılı: Makro çevresel faktörler üzerine kapsamlı bir analiz. *MANAS Sosyal Araştırmalar Dergisi*, 12(Özel Sayı), 171-185.
- Meral, H., & Arıcan, E. (2020). Bireysel emeklilik sistemine otomatik katılım: Türkiye için bir uygulama. *Finansal Araştırmalar ve Çalışmalar Dergisi*, 12(22), 190-212.
- Meral, H., & Ersoy, B. (2023). Türk sigorta sektöründe müşteri memnuniyeti: Sigorta şikâyetleri üzerine derinlemesine bir analiz. *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 23(4), 1295-1312.
- Munnell, A., Sundén, A., & Taylor, C. (2002). What determines 401(k) plan participation and contributions? *Social Security Bulletin*, 64(3), 64–75.
- Muratoğlu, M. (2012). Türk sigorta sektöründe dağıtım kanalları yapısı ve şirket ile acenteler arasındaki ilişki memnuniyeti üzerine bir araştırma (Unpublished master's thesis). Yıldız Technical University, Social Sciences Institute, İstanbul.
- Müslümov, A., & Aras, G. (2011). Türk sigorta sektörünün özel emeklilik reformu sürecinde değişen rolü: Fırsatlar ve tehditler. *İstanbul Üniversitesi İktisat Fakültesi Mecmuası*, 53(2), 37-56.
- Nakip, M. (2006). Pazarlama araştırmaları: Teknikler ve (SPSS) destekli uygulamalar. Seçkin Yayıncılık, Ankara: Turkey.
- Netemeyer, R. G., Narden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. Sage Publications Inc., California: USA.
- Noyan, F. (2009). Çok aşamalı yapısal eşitlik modellerinin iş tatmini ile örgütsel bağlılık arasındaki ilişki üzerine bir uygulaması (Doctoral dissertation). Marmara University, Social Sciences Institute, İstanbul.
- Nunnally, J. C. (1979). *Psychometric theory* (2nd ed.). McGraw-Hill, New York: USA.
- Odabaşı, Y. (1996). Tüketici davranışı ve pazarlama stratejisi. *Anadolu Üniversitesi Yayınları*, No: 908. Eskişehir: Turkey.

- Outrevalle, J. F. (2013). The relationship between insurance and economic development: 85 empirical papers for a review of the literature. *Risk Management and Insurance Review*, 16(1), 71-122.
- Öçal, M., & Boyacıoğlu, N. (2018). Sosyal güvenlik hizmetlerinin finansman yöntemleri: Türkiye’de ve dünyada sosyal güvenliğin finansmanına kısa bir bakış. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 10(26), 910-923.
- Özbolat, M. (2003). Türkiye’de hayat sigortaları ve bireysel emeklilik sistemi. Detay Yayıncılık, Ankara: Turkey.
- Özcan, H., & Tanık, E. (2021). Karayolu yük nakliyat sigortalarının hasar ve müşteri memnuniyeti etkisi üzerine bir araştırma. *İstanbul Esenyurt Üniversitesi İşletme ve Yönetim Bilimleri Fakültesi Sosyal Bilimler Araştırmaları Dergisi*, 1(1), 37-50.
- Özdamar, K. (2010). Paket programları ile istatistiksel veri analizi 2. Kaan Kitabevi, Ankara: Turkey.
- Özdamar, K. (2016). Ölçek ve test geliştirme: Yapısal eşitlik modellemesi. Nisan Kitabevi, Eskişehir: Turkey.
- Özel, Ö., & Yalçın, C. (2013). Yurtiçi tasarruflar ve bireysel emeklilik sistemi: Türkiye’de uygulamaya ilişkin bir değerlendirme. *İktisat İşletme ve Finans*, 28(327), 31-66.
- Özen, E. (2021). Otomatik katılım algısı, finansal bilgi ve finansal davranışın bireysel emeklilik sistemi talebine etkisi. *Ekonomi Politika ve Finans Araştırmaları Dergisi*, 6(3), 912-927.
- Özer, Ö., & Çınar, E. (2012). Bir vakıf üniversitesi akademik personelinin bireysel emeklilik sistemine bakış açısının değerlendirilmesi. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 9(19), 75-88.
- Paksu, M. T. (2007). Bireysel emeklilik sistemi ve ekonomik etkileri (Unpublished Master's Thesis). Pamukkale University, Social Sciences Institute, Denizli.
- Pension Monitoring Center. (2026a). Voluntary participation IPS: Pension funds. Retrieved from <https://www.egm.org.tr/voluntary-participation-ips/voluntary-ips-funds/> (Accessed on: 05.09.2026).
- Pension Monitoring Center. (2026b). Participant information guide. Retrieved from <https://www.egm.org.tr/participants/participant-information-guide/> (Accessed on: 05.09.2026).
- Pension Monitoring Center. (2026c). State contribution. Retrieved from <https://www.egm.org.tr/voluntary-participation-ips/state-contribution/> (Accessed on: 05.09.2026).
- Prawitz, A., & Cohart, J. (2014). Workplace financial education facilitates improvement in personal financial behaviors. *Journal of Financial Counseling and Planning*, 25(1), 5-26.
- Rakıcı, C., & Ela, M. (2016). Türkiye’de bireysel emeklilik sistemine yönelik vergisel teşvikler. *Bolu Abant İzzet Baysal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 16(3), 89-110.
- Raykov, T. (1997). Estimation of composite reliability for congeneric measures. *Applied Psychological Measurement*, 21(2), 173-184.
- Ricci, O., & Caratelli, M. (2017). Financial literacy, trust and retirement planning. *Journal of Pension Economics & Finance*, 16(1), 43-64.
- Saraçlı, S. (2004). Müşteri tercihlerinin araştırılmasında konjoint analizi ve bireysel emeklilik sistemi üzerine bir uygulama (Unpublished Master's Thesis). Anadolu University, Social Sciences Institute, Eskişehir.
- Saraçlı, S. (2013). Faktör analizinde yer alan döndürme metotlarının karşılaştırmalı incelenmesi üzerine bir uygulama. *Düzce Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi*, 1(3), 22-26.
- Saraçlı, S., & Şıklar, E. (2005). Bireysel emeklilik şirketlerinin tercihinde etkili olan faktörlerin conjoint analizi ile incelenmesi. *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 5(2), 1-12.
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Test of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, 8(2), 23-74.

- Schumacker, R. E. (2006). Conducting specification searches with AMOS. *Structural Equation Modeling: A Multidisciplinary Journal*, 13(1), 118–129.
- Sharif-Nia, H., Pahlevan Sharif, S., Koocher, G. P., Yaghoobzadeh, A., Haghdoust, A. A., Mar Win, M. T., & Soleimani, M. A. (2020). Psychometric properties of the death anxiety scale-extended among patients with end-stage renal disease. *OMEGA-Journal of Death and Dying*, 80(3), 380-396.
- Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 9(1), 4-11.
- Singh, F., & Kaur, M. (2016). Why exporting SMEs switch banks? *Global Business Review*, 16(4), 652-664.
- Stapleton, C. D. (1997). Basic concepts and procedures of confirmatory factor analysis. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin.
- Şamiloğlu, F., Eser, F., & Bağcı, H. (2019). Türkiye’de sigortacılık sektörünün makroekonomik değişkenlerle olan ilişkisi. *Ekonomi ve Yönetim Araştırmaları Dergisi*, 8(1), 24-40.
- Şataf, C., & Yıldırım, O. (2019). Türkiye’de bireysel emeklilik sistemi’nin (Bes) algılanma düzeyi: Ordu ili örneği. *Selçuk Üniversitesi Sosyal Bilimler Meslek Yüksekokulu Dergisi*, 22(2), 572-588.
- Şen, M., & Memiş, T. (2001). Bireysel emeklilik tasarruf ve yatırım sistemi kanunu’na eleştirel bir yaklaşım. *Erzincan Binali Yıldırım Üniversitesi Hukuk Fakültesi Dergisi*, 5(1–4), 485–512.
- Şener, O., & Akın, F. (2010). Özel emeklilik fonları ve Türkiye’de bireylerin bireysel emeklilik sistemine giriş kararlarını etkileyen faktörlerin belirlenmesi üzerine bir araştırma. *Marmara Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 29(2), 291-321.
- Şener, Y., & Behdioğlu, S. (2013). Türkiye sigorta pazarının gelişimindeki ana unsurların belirlenmesine yönelik bir araştırma. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, EYİ 2013 Özel Sayısı, 523- 534.
- Şimşek, Ö. F. (2007). Yapısal eşitlik modellemesine giriş: Temel ilkeler ve LISREL uygulamaları. Ekinoks Eğitim Yayınları, Ankara: Turkey.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Experimental designs using ANOVA*. Thomson/Brooks/Cole, Belmont, CA: USA.
- Tavşancıl, E. (2006). *Tutumların ölçülmesi ve SPSS ile veri analizi (3rd ed.)*. Nobel Yayın-Dağıtım, Ankara: Turkey.
- Tezbaşaran, A. (1996). *Likert tipi ölçek geliştirme kılavuzu*. Psikologlar Derneği Yayınları, Ankara: Turkey.
- Topalhan, T. (2010). Türkiye’de altıncı yılında bireysel emeklilik sistemi ve uygulama sonuçları. *Kamu-İş*, 11(2), 165-210.
- Tunay, N., Çamlıbel, F., & Tunay, K. B. (2020). Ekonomik dalgalanmaların sigorta şirketlerinin pazar payları ve prim üretimleri üzerindeki etkileri. *Balkan Sosyal Bilimler Dergisi*, 9(17), 95-101.
- Tunay, N., & Tunay, K. B. (2023). Türkiye’de enflasyonun sigorta şirketlerinin performansına ve prim üretimlerine etkileri. *Ekonomi Politika ve Finans Araştırmaları Dergisi*, 8(1), 59-82.
- Tüfekçi, A. (2006). Sigorta brokerliği firmalarının inşaat sigortaları uygulamalarındaki işlevi (Master's thesis). İstanbul Technical University, Institute of Science and Technology, İstanbul.
- Uluçay, H., Keser, İ. K., & Deveci-Kocakoç, İ. (2020). Türkiye’de bireysel emeklilik sistemine giriş kararlarını etkileyen faktörler ve 2017 sonrası sistemde yapılan düzenlemeler. *Adnan Menderes Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 7(1), 115-137.
- Uralcan, G. Ş. (2011). *Temel sigorta bilgileri ve sigorta sektörünün yapısal analizi (3rd ed.)*. Hiperlink Yayınları, İstanbul: Turkey.
- Uygurtürk, H., & Korkmaz, T. (2015). Portföy optimizasyonunda Markowitz modelinin kullanımı: Bireysel emeklilik yatırım fonları üzerine bir uygulama. *Muhasebe ve Finansman Dergisi*, 68, 67–82.

- Ünlü, S., & Tolon, M. (2012). Tutundurma faaliyetlerinin tüketici satın alma davranışlarına etkisinin belirlenmesi: Türk GSM sektöründe bir araştırma. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 26(2), 273–295.
- van Dalen, H. P., & Henkens, K. (2018). The making and breaking of trust in pension providers: An empirical study of pension participants. *The Geneva Papers on Risk and Insurance - Issues and Practice*, 43, 473–491.
- Watkins, M. W. (2018). Exploratory factor analysis: A guide to best practice. *Journal of Black Psychology*, 44(3), 219–246.
- World Bank. (1994). Averting the old age crisis: Policies to protect the old and promote growth. World Bank Group, Washington, D.C.: USA. Retrieved from <http://documents.worldbank.org/curated/en/973571468174557899/Averting-the-old-age-crisis-policies-to-protect-the-old-and-promote-growth> (Accessed on: 28.10.2024).
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist*, 34(6), 806–838.
- Yaşlıoğlu, M. M. (2017). Sosyal bilimlerde faktör analizi ve geçerlilik: Keşfedici ve doğrulayıcı faktör analizlerinin kullanılması. *İstanbul Üniversitesi İşletme Fakültesi Dergisi*, 46(special issue), 74-85.
- Yavaş, M. (2009). Maaş ve ücret haczi. *Türkiye Barolar Birliği Dergisi*, 22(84), 93–120.
- Yazıcı, S. (2015). Bireysel emeklilik sistemi ve Türkiye uygulaması (Unpublished doctoral dissertation). Ankara University, Social Sciences Institute, Ankara.
- Yelekcı, M. (2003). Sosyal güvenlik hukuku (2nd ed.). Umut Yayınevi, Ankara: Turkey.
- Yemez, İ. (2016). Doğrulayıcı faktör analizi ile sosyal medya reklamlarına yönelik tutum ölçeğinin yapı geçerliliğinin incelenmesi: Cumhuriyet Üniversitesi İİBF’de Bir Uygulama. *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 17(2), 97-118.
- Zanghieri, P. (2013). Participation to pension funds in Italy: The role of expectations and financial literacy. *Social Science Research Network (SSRN)*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2259758 (Accessed on: 25.10.2024).