

The Relationship Between Work Engagement, Initiative-Taking, Career Planning and Uncertainty Management in Educational Administrators: A Mixed Methods Research*

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Abstract

The aim of this study is to determine the relationships between work engagement, initiative, career planning and uncertainty management in education administrators. In the study, the descriptive sequential mixed method design was used and the process included first collecting quantitative data and then supporting the quantitative results with comprehensive qualitative data. The quantitative part sample of the research was carried out by cluster and simple random sampling method from education administrators working in Karatay, Meram and Selçuklu districts of Konya province; The qualitative part sample was selected from the educational administrators in the quantitative part sample on a voluntary basis by the criterion sampling method, which is one of the purposive sampling methods. The quantitative data of the study were collected with the scales of Uncertainty Management, Taking Initiative, Work Engagement, Career Planning, and the qualitative data were collected with a semi-structured interview form prepared for use in the research. Descriptive and inferential statistics were made for the quantitative part, and theme, descriptive and content analyses were made for the qualitative part. In the quantitative part of the study, it was found that there was a statistically significant relationship between the variables of work engagement, initiative, career planning and uncertainty management, and that work engagement, initiative and career planning predicted uncertainty management; In the qualitative part, it has been concluded that competent, adequate and qualified education administrators should be selected on the basis of merit and fairly, in order for education administrators to manage uncertainty, integrate with the job, take initiative and make career planning.

Keywords: Uncertainty management, work engagement, initiative taking, career planning, mixed methods research.

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Introduction

Education organizations often find themselves uncomfortable with uncertainty, which is inherent in their nature and is characterized by unpredictability, complexity, and a lack of security. Therefore, they prefer to have their objectives and structures defined in advance through written forms. However, individuals working in educational organizations are social beings, and despite comprehensive written rules, not every social behavior can be meticulously documented step by step. Hence, there is a need for educational administrators who can effectively manage uncertainty by taking initiative, integrating their work, and pursuing a career in educational leadership.

Uncertainty is one of the most natural and probable occurrences in our daily lives. Consequently, coping with uncertainty is considered a fundamental principle in managing complex organizations (Clampitt & Dekoch, 2001). Uncertainty can be distressing and challenging both cognitively and emotionally. It can create a vulnerability or anxiety that may actively distort perceptions and information. This can lead to premature decision-making, dilemmas, rejection of relevant information, rigid categorization, and a return to old methods (Clampitt & Williams, 2004). Therefore, the effective management of uncertainty requires educational administrators who can take initiative. However, their initiatives must align with the organization's objectives, and the power and authority they employ should be used within legitimate boundaries.

Taking initiative also requires being more flexible (Naswall, Hellgren & Sverke, 2008). Especially in educational organizations where bureaucratic tendencies are prevalent, a more hierarchical management style is often in place. Sometimes, disruptions caused by this hierarchical management style can hinder the smooth flow of work. In such cases, managers may need to take initiative to address these issues (Belschak, Hartog & Fay, 2010). The word "initiative" has been borrowed into Turkish from French. Taking initiative requires active and persistent efforts to address problems. It is considered normal for employees to encounter issues or difficulties in their work environment when engaging in such efforts. However, if employees quickly give up when facing challenges in the workplace, it cannot be said that they are demonstrating initiative (Frese et al., 1996). Moreover, in educational systems, most decisions regarding education are made by central governments. These decisions limit the decision-making authority of school administrators, and during the implementation of these decisions, educational administrators often have to incorporate their own interpretations into the process. Furthermore, it is unrealistic to expect effective initiative from educational administrators whose decision-making authority is as limited as possible. Educational administrators, who are often required to make quick decisions to bring together various elements and create a whole, often do not dare to take such initiatives due to a lack of authority (Bursalioğlu, 2002). However, we can say that education administrators who are integrated into their work can courageously take initiative, even though the decisions of central governments affect them systemically. This is because education administrators are expected to work in an integrated manner with their roles.

Kahn (1990), who initially introduced the concept of work engagement, described it as an employee's strong attachment to their job, involving their body, emotions, thoughts, and understanding while carrying out their work in the workplace, allowing them to express themselves more comfortably in their role (Kahn, 1990). According to Ashforth & Humphrey (1995), an integrated employee dedicates their mind, heart, and hands to their work, leading to effective job performance. Employees who integrate with their work consistently and effectively channel their physical energy and efforts into their tasks. In essence, work engagement can foster positive emotions in employees, such as motivation, enthusiasm for their work, and a strong commitment to their tasks. This positive emotional state can significantly enhance the quality of an employee's work, their level of engagement, their skills, creativity, and their contributions to the organization (Keser & Yılmaz, 2012). Furthermore, employees who are integrated into their work contribute to fostering a positive working environment within the organization, which, in turn, enhances overall job performance (Kavgacı, 2014). Consequently, work engagement inherently supports employees in both their individual and organizational career development plans.

The initiation and advancement of an employee's career upon entering a job position depend on the organization's implemented socialization program and the success of the employee in this process (Can, 1999). The term "career" originates from the Latin word "carraria," meaning road or main road (Bozkurt, Ergun & Sezen, 2014). It is used to describe a profession or occupation that offers opportunities for promotion and personal development, which an individual will pursue throughout their life. The concept of a career holds significant importance in the lives of individuals who begin planning their future at an early age. Individuals with various motivations aim to focus on a specific profession, acquire expertise through education and experience, and specialize in their chosen field. At the macro level, demographic characteristics of countries, development levels, employment policies, training strategies, global trends, national and international competitive conditions, and at the micro level, individual talents, expectations, opportunities, as well as organizational and regional factors collectively contribute to shaping and determining one's career path (Dündar, 2013).

In today's organizations, it is no longer sufficient for employees to perform their job tasks; they are also expected to embrace organizational values, understand their roles and responsibilities, continuously develop themselves, and act in harmony with the organization's goals. Simultaneously, forward-looking organizations strive to provide their employees not only with secure and long-term job opportunities but also a successful future and career growth. Employees, on the other hand, aspire to advance in their careers, earn higher incomes, achieve job satisfaction, and gain prestige (Bozkurt, Ergun & Sezen, 2014; Long, 2004). The concept of "career" can be interpreted and used in various ways. It can refer to an individual's commitment to a specific field of expertise or related professions, their gradual advancement within a profession, and their overall life success (Eryılmaz, 2008). Aytaç (1997) suggests that the term "career" can be applied to professions requiring expertise in fields such as management, law, or

medicine, while other jobs not requiring such expertise may be termed "employment." Essentially, "career" encompasses the idea of an individual having the opportunity to work at a young age, job security, opportunities for advancement, and assurance of employment until retirement (Eryılmaz, 2008). Tortop (2005) defines a career as "a step-by-step, continuous progress in any field of work, gaining experience and skills over the years, enabling a person to continue working." Can (1999) and Soysal (2007) define organizational career as "the collection of attitudes and behaviors an individual perceives regarding work-related experiences and activities acquired throughout their life." Career involves equipping employees with the necessary knowledge, skills, and abilities to fulfill their job role expectations and aspirations (Özgen, Öztürk & Yalçın, 2002). Uzun (2004) views the concept of career as an individual's occupation, generally continuing until the end of their working life, while Tortop (2005) sees it as a part of the legal framework that enables job transitions. Today, the concept of career emphasizes a process that holds positive meaning for employees, ensuring their psychological satisfaction. In this context, it is more critical for employees to acquire knowledge, develop skills, and enhance themselves than simply advancing within an organization (Erdoğan, 2003). However, when examining the career planning of educational managers within the current circumstances and normative regulations, it becomes evident that their career planning is filled with uncertainties, making it challenging for them to formulate career plans under existing conditions.

Despite the existing development plans, education summits, and normative regulations aimed at equipping educational managers with human resources principles (Yüksel, 2003) and transforming them into qualified, competent, and capable educational managers (MEB, 2021), it is observed that these goals have not been fully realized. Educational institution administrators often attempt to carry out their duties without possessing the required knowledge and skills, and without developing positive and meaningful attitudes towards their profession (Turhan & Karabatak, 2015). The ability of educational managers to manage uncertainty, integrate with their work, take initiative, and engage in career planning appears challenging and uncertain within the current context of theory and practice. On the other hand, uncertainty refers to the inability to predict future events or possible outcomes with precision. It should be noted that educational organizations, which involve people, are often characterized by a high degree of uncertainty, making it essential for educational institutions to address uncertainty as a fundamental aspect of their managerial processes. Moreover, managing uncertainty in alignment with the organization's goals necessitates the presence of qualified, competent, and capable educational managers who can take personal initiatives, integrate with their work, and engage in career planning. However, when examining the literature related to these variables, it is evident that numerous studies have been conducted on uncertainty (Allais & Hagen 1979; Carriero, Clark & Marcellino, 2018), work engagement (Brummelhuis & Bakker, 2012; Schaufeli & Salanova, 2011; Van den Heuvel et al., 2010), initiative-taking (Akin, 2012; Frese & Fay, 2001; Daniels, Vimalasiri & Cheyne, 2011; Speier & Frese, 1997), and career planning (Seymen, 2004; Tunçer, 2012; Uzun, 2004). However, the majority of these

studies have been conducted in fields such as physics, mathematics, business, economics, software and information technology, psychology, healthcare, and communication, rather than in educational organizations. Furthermore, it has been observed that these studies primarily focus on disciplines other than educational management. In fact, no study has been found that comprehensively investigates all these variables within the scope of educational organizations. Consequently, there appears to be a gap in the literature regarding educational organizations and educational management. For this reason, the analysis of how the work engagement, initiative-taking, and career planning of educational managers predict uncertainty management has been selected as the main problem of this research.

Purpose of the Research

The aim of this study is to determine the prediction of uncertainty management by educational administrators' work engagement, initiative and career planning. For this purpose, answers to the following questions were sought throughout the research.

- 1) Is there a relationship between the perception levels of education administrators on uncertainty management, work engagement, initiative and career planning?
- 2) Do work engagement, initiative and career planning predict uncertainty management?
- 3) What is the relationship between work engagement and uncertainty management in terms of educational management?
- 4) What is the relationship between initiative taking and uncertainty management in terms of educational management?
- 5) What is the relationship between career planning and uncertainty management in terms of educational management?

Method

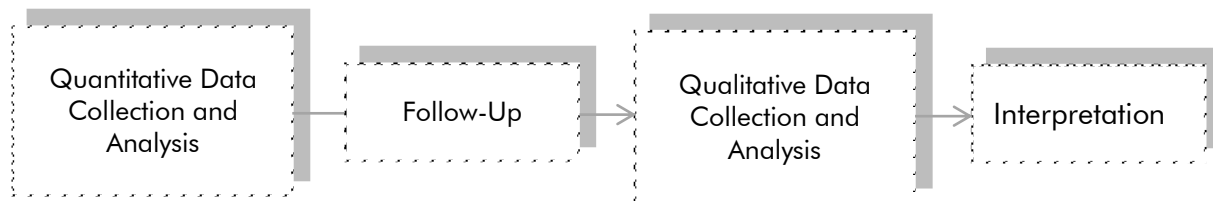
Model and Paradigm of the Research

This research aims to investigate how educational administrators' work engagement, initiative-taking, and career planning predict uncertainty management, and it is a mixed-methods study that combines quantitative and qualitative research methods. Mixed-methods research is a type of research in which the researcher combines quantitative and qualitative research models to comprehensively understand and reveal reality (Teddlie & Tashakkori, 2009). According to Creswell (2015), mixed-methods research should be used based on keywords that determine the rationale and design choice. In research designed with mixed methods, key concepts such as 'interaction level, priority determination, timing determination, how and where to combine quantitative

and qualitative data' are used to make decisions about design to illuminate the problem (Clark & Ivankova, 2018). By using these key concepts, it was decided to use the explanatory sequential design for this research. The model for the explanatory sequential design from mixed-methods research is provided in Figure 1."

Figure 1.

Mixed Method Research Descriptive Sequential Pattern Model



Source: Creswell, 2015

In this research, an explanatory sequential design (explanatory sequential design) and its sub-design, the follow-up explanations variant, were used [MMR(f)= QUANTITATIVE x qualitative, QUANT→qualitative]. This design involves first collecting and analyzing quantitative stage data, followed by collecting and analyzing qualitative data (Creswell & Clark, 2018). The quantitative research was conducted in a descriptive survey model. Survey models fall within the category of non-experimental research models among quantitative research methods. The main aim of survey models is to describe the characteristics of a group or population. In survey research, a sample is taken, and a research purpose-appropriate scale is applied to reveal participants' attitudes, thoughts, behaviors, experiences, or other characteristics (Creswell & Creswell 2018). The qualitative design of this research was conducted according to the embedded single-case design of the case study. A case study design is preferred by researchers when they seek answers to "How?" and "Why?" questions as it allows for in-depth analysis (Yin, 2016). The case study is a research strategy that involves the experimental examination of a specific contemporary phenomenon within its real-life context using multiple sources of evidence (Arthur et al., 2017). Furthermore, the paradigm of this research is pragmatism, which combines both realism and idealism philosophies and is oriented towards "whatever works" (Gunbayi & Sorm, 2020).

Population and Sample of the Research

The quantitative study population of the research consists of education administrators working in the central districts of Konya, namely Karatay, Meram, and Selçuklu. According to the data obtained from the Konya Provincial Directorate of National Education Strategy Development Unit on April 5, 2021, the number of permanent education administrators in Karatay district is 369, in Meram district, it is 362, and in Selçuklu district, it is 567. The total number of permanent education administrators in these three districts is determined to be 1298. To determine the sample size, the $\alpha=0.05$ table by Arıkan (2005) and Altunışık et al. (2010) was considered. As a result of the

examination, it was decided that a sample group of $n=296+$ individuals could represent a population of 1298 individuals at a significance level of 0.05 and with a 5% tolerance level. Probability-based sampling techniques, specifically cluster sampling and simple random sampling, were used in the selection of education administrators. The general sample rate was calculated as $[296/1298=0.228]$ to determine the number of samples allocated to each cluster. Accordingly, 84 education administrators from Karatay district, 83 from Meram district, and 129 from Selçuklu district were selected for the sample. The education administrators included in the sample were selected using the simple random sampling technique, which is one of the probability-based techniques. On the other hand, in the qualitative part of the research, the "criterion sampling" technique, which is one of the purposeful sampling methods, was used. Criterion sampling involves including individuals who meet specific criteria related to the research purpose (Given, 2008). In this research, the criteria for inclusion were defined as education administrators working in central or provincial organizations, having completed postgraduate education in educational administration, and having given low scores to measurement tools. Nine education administrators who met these criteria were included in the research on a voluntary basis.

Data Collection Tools

The Uncertainty Management Scale was developed by Mazlum (2019). The scale consists of thirty-one items and four dimensions under the factors of uncontrollable forces, organizational change, manager-employee relationship and communication, uncertainty tolerance. The Work Engagement Scale was developed by Schaufeli, Bakker & Salanova (2006). The short version of the scale has been translated into Turkish by Özkalp & Meydan (2015). The scale consists of nine items and three factors: fitness, dedication and concentration, in accordance with the authors' conceptualization. The Initiative Taking Scale was developed by Akın (2012). The scale consists of thirty-two items and three factors: proactivity, spontaneous onset, persistence. The Career Planning Scale was developed by Aydın (2010). The scale consists of fourteen items and one dimension. The results of the confirmatory factor analysis for the measurement tools used in the study are given in Table 1.

Table 1.

Confirmatory Factor Analysis Model Fit Criteria and Model Results

Model Fit Criterion	Acceptable Fit	Uncertainty Management	Work Engagement	Taking the Initiative	Career Planning
X2 Fit Test	$0,01 < p \leq 0,05$,000	,028	,000	,000
CMIN/SD	$X^2 /sd \leq 5$	1,913	1,634	1,350	1,913
Comparative Fit Indices					
IFI	$,90 \leq IFI$,962	,971	,954	,962
CFI	$,95 \leq CFI$,961	,971	,953	,961
RMSEA	$RMSEA \leq 0,08$,052	,045	,032	,052
Absolute Fit Indices					
GFI	$0.85 \leq GFI$,956	,974	,909	,956

AGFI	$0.85 \leq \text{AGFI}$,917	,950	,888	,917
Residual Based Compliance Indices					
RMR	$0 < \text{RMR} \leq 0,08$,039	,021	,036	,039
Model Comparison Fit Indices					
AIC	Smallest model	205,148	81,581	778,270	205,148
CAIC	Smallest model	441,766	186,415	1265,993	441,766
ECVI	Smallest model	,605	,257	2,296	,605

Source: Byrne, 2016; Collier, 2020; Kline, 2016; Thompson, 2004

When the values in Table 1 for the confirmatory factor analysis model fit criterion and model results were examined, it was seen that the values obtained were smaller than both saturated and independent models. In this case, it has been concluded that scale models are close to reality (Byrne, 2016). The reliability coefficient for the overall uncertainty management scale was $\alpha=.870$, the reliability coefficient for the overall work engagement scale was $\alpha=.734$, the reliability coefficient for the overall personal initiative scale was $\alpha=.879$, and the reliability coefficient for the overall career planning scale was $\alpha=.789$. An alpha coefficient of 0.60 and above indicates that the scale is quite reliable (Alpar, 2011; Strap, 2010; Özdamar, 2017). In this study, the reliability coefficients of the scales are 0.60 and above, which shows that they are reliable.

In the qualitative phase of the research, a semi-structured interview form was used to explain the results obtained from quantitative analyses in depth. The interview technique can also be called a traditional questionnaire created by asking questions in turn, recording, or marking the answers (Arıkan, 2005). The purpose of the structured interview is to determine the parallelism and difference between the information given by the interviewees and to make comparisons within this framework (Yıldırım & Şimşek, 2005). On the other hand, ethical principles were meticulously followed at every stage of the research. The Akdeniz University Scientific Ethics Committee has obtained the necessary legal permissions with the number 128851 dated December 7, 2020.. It was ensured that the questionnaires were filled in by the education administrators on a voluntary basis. The purpose of the study was explained to the relevant parties with the attached consent form and the research was continued in line with the permission obtained. To further ensure confidentiality, the names of the interviewees were coded as "A-B-C-D-E-F-G-H-I". In the consent forms, information about the rights of the right holders not to answer or refuse questions about the sensitive issues of the participants is explained. In addition, they are assured that they can withdraw from this research at any time until the research article is accepted. On the other hand, since all the records of this study are private, they are stored with password protection and have not been shared with anyone.

Data Analysis

In the quantitative part of the study, SPSS 25 and AMOS 23 package programs were used. The kurtosis and skewness values for the normal distribution were determined as -3 and +3 reference intervals (Kalaycı, 2010). If kurtosis values are less than three, the

distribution exhibits wider peaks, and kurtosis values greater than three exhibit sharper peaks in the center of the distribution than those in the normal distribution, disrupting the normal distribution (Aldrich & Cunningham, 2016; Cohen, Manion & Morrison, 2018; Young, 2017). The skewness and kurtosis coefficients obtained for this study showed that the data were normally distributed. Descriptive statistics and inferential statistics were calculated for the data collected in this study. The relationship between two or more variables that change together is examined by correlation. The direction of the relationship, that is, whether it is in the opposite or right direction, and the strength of the relationship are determined by a coefficient called the correlation coefficient. While the correlation coefficient shows the direction and strength of the relationship between variables, it does not provide information about the mathematical structure of the relationship between variables (Güriş & Astar, 2015). Regression analysis is the most common method used to model the relationship between two or more variables in inferential statistics. In regression analysis, the relationship between variables is explained by a mathematical model. If the analysis is performed using a single variable to model the output, it is called univariate regression analysis, and if more than one variable is used, it is called multivariate regression analysis (Pektaş, 2013). In the study, the calculations regarding whether work engagement, initiative and career planning predict uncertainty management were made by regression analysis. A general score was obtained from the measurement tools used in the research with the mean and the correlation and regression analyzes in the quantitative part of the research were calculated with this average score.

In the qualitative part of the study, the NVIVO 10 package program was used. Qualitative data analysis is divided into four groups: "theme analysis, descriptive analysis, content analysis, and analytical generalization" (Gunbayi, 2023). After the thematic and descriptive analyzes were made for this research, analytical generalization was made. In the study, kappa analysis was performed to calculate the reliability of the coding processes of qualitative data. An inter-encoder reliability coefficient was found [$\kappa=.914$ $t=10.754$ $p=.001$]. This coefficient indicates that the inter-encoder reliability is significantly high (Landis & Koach, 1977).

Findings

The findings on the relationship between uncertainty management, work engagement, initiative and career planning are given in Table 2, and the findings and interpretations regarding the prediction of uncertainty management by work engagement, initiative and career planning are given in Table 3.

Table 2.

Correlation Analysis Results on Uncertainty Management, Work Engagement, Initiative Taking and Career Planning

	Uncertainty Management	Work Engagement	Taking the Initiative	Career Planning
Uncertainty Management	1			
Work Engagement	,660**	1		
Taking the Initiative	,284**	,142*	1	
Career Planning	,393**	,258**	,340**	1

** p<0.01 *p<0.05

When the results of the correlation analysis of the relationship between uncertainty management, work engagement, initiative and career planning are examined in Table 2, it is seen that there is a positive and statistically significant relationship between all variables included in the study. There is a positive and statistically significant relationship between uncertainty management and work engagement [$r=.660$ $p<0.01$]. There is a positive and statistically significant relationship between uncertainty management and taking initiative [$r=.284$ $p<0.01$]. There is a positive and statistically significant relationship between uncertainty management and career planning [$r=.393$, $p<0.01$]. There is a positive and statistically significant relationship between work engagement and taking initiative [$r=.142$ $p<0.05$]. There is a positive and statistically significant relationship between work engagement and career planning [$r=.258$ $p<0.01$]. There is a positive and statistically significant correlation between initiative taking and career planning [$r=.340$, $p<0.01$].

Table 3.

Multiple Regression Analysis Results on the Prediction of Uncertainty Management by Work Engagement, Initiative Taking and Career Planning

	B	Standard Error	β	t	p
Constant	1,557	,175	-	8,914	,001*
Work Engagement	,429	,030	,590	14,349	,001*
Taking the Initiative	,093	,029	,134	3,168	,002*
Career Planning	,130	,029	,195	4,504	,001*

(i) Regression Model Materiality Test $F_{(3-315)}= 106,750$ $p=.001^*$ $R= .710$ $R^2= .504$ Corrected $R^2=.499$ Durbin-Watson Value 1.567 Tolerance values Work Engagement.930 Initiative Taking .881 Career Planning .839 VIF values Work Engagement 1.075 Taking Initiative 1.135 Career Planning 1.191 and the mean of waste was found to be zero. The skewness and kurtosis values for the normal distribution assumption are given in Table 3.13 in the descriptive statistics section. Dependent Variable: Uncertainty Management

(ii) * $p<0.05$ significance level

When the results of multiple regression analysis on the prediction of work engagement, initiative and career planning for uncertainty management are examined in Table 3;

The significance value of the model established under the influence of work engagement in (X_1), initiative taking (X_2) and career planning (X_3) independent variables on the uncertainty management (\hat{y}) dependent variable is less than 0.05. shows [$F_{(3-315)} = 106,750$ $p = ,001^*$]. Therefore, the established regression model (1) can be used for prediction.

$$\hat{Y} = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \varepsilon \quad (1)$$

In the table above, when the coefficients are substituted in the regression model (1), the regression equation (2) is as follows.

$$\text{Uncertainty Management} = 1,557 + (.429 \times \text{Work Engagement}) + (.093 \times \text{Initiative}) + (.130 \times \text{Career Planning}) + \varepsilon \quad (2)$$

The significance value of the β_0 parameter t test was [$t=8.914$ $p=.001^*$] β the significance value of the 1 parameter t test was [$t=14.349$ $p=.001^*$] β the significance value of the 2-parameter t test was [$t=3.168$ $p=.002^*$] and the significance value of the β_3 parameter t test was [$t=4.504$ $p=.001^*$]. These values show that the independent variables of work engagement, initiative and career planning are statistically significant in predicting uncertainty management, which is the dependent variable. According to the adjusted value of $R^2 = .499$, the independent variables of work engagement, initiative and career planning explain 49.9% of the total variance of the uncertainty management dependent variable. When the predictive power of the model is examined, it is seen that the best predictor of uncertainty management according to standardized beta coefficients is work engagement with 59.0% [$\beta = .590$]. This finding shows that the integration of the training manager with the job is an important predictor on managing uncertainty. When the predictive power of the model is examined, it is seen that the second-best predictor of uncertainty management according to standardized beta coefficients is career planning with 19.5% [$\beta = .195$]. This finding shows that the career planning of the training manager is an important predictor of managing uncertainty. When the predictive power of the model is examined, it is seen that the third-best predictor of uncertainty management according to standardized beta coefficients is initiative taking with 13.4% [$\beta = .134$]. This finding shows that the initiative of the training manager is an important predictor of managing uncertainty.

The themes, categories, and subcategories of the relationship between work engagement and uncertainty management are given in Table 4, the themes, categories, and subcategories of the relationship between initiative and uncertainty management are given in Table 5, and the themes, categories and subcategories of the relationship between career planning and uncertainty management are given in Table 6.

Table 4.

Themes, Categories and Subcategories of the Relationship Between Work Engagement and Uncertainty Management

Main Theme	Category	Sub-Themes	A	B	C	D	E	F	G	H	I	
The Relationship Between Work Engagement and Uncertainty Management	Change Effect	Ability to Foresee Innovations	✓			✓		✓				
		Implementing Technological Innovations	✓	✓			✓		✓	✓		
	Impact on Employees	Increased Contact with Stakeholders	✓		✓				✓	✓		
		Informing Employees in a Multifaceted Way	✓	✓		✓					✓	✓
		Reassuring Stakeholders	✓					✓				✓
	Predictive Effect	Making the Right Plans	✓					✓	✓	✓		
		Easily Implement Instructions		✓		✓						✓
	Acceptance Effect	Not rejecting ambiguity	✓					✓				✓
		Not Afraid of Uncertainty			✓			✓		✓	✓	
		Feeling Self-Sufficient	✓						✓		✓	✓

When the findings of the main themes, categories and sub-themes of the relationship between work engagement and uncertainty management are examined in Table 4, the sub-themes of the relationship between work engagement and uncertainty management are divided from the sub-themes of "anticipating innovations, implementing technological innovations" to the "Change Effect" category, from the sub-themes of "increasing contact with stakeholders, informing employees in a multifaceted way, relieving stakeholders" to the "Impact on Employees" category, The category of "Prediction Effect" was reached from the sub-themes of "making correct plans, applying instructions easily", and the category of "Acceptance Effect" was reached from the sub-themes of "not rejecting uncertainty, not being afraid of uncertainty, feeling self-sufficient". The statements of the education administrators on the subject are as follows:

[... Work engagement has an impact on uncertainty management. The more integrated the training manager is with his job, the easier it is to manage uncertainty. I can say that it has a change effect. Because a training manager who is integrated with the business can foresee innovations in the name of change. He can even apply technological innovations to his school right away.

[... Work engagement has an impact on uncertainty management, and I would say that it is multidimensional. Training management needs to inform its employees about uncertain issues in uncertainty management. Uncertainty, in my opinion, arises from deficiencies in information sources. What will happen? How will it be? An ambiguous atmosphere prevails in the environment. At this point, the training manager can convey the right information to his employees in a versatile way by using communication resources D, OM-E].

[... Work engagement should naturally have an impact on uncertainty management. If you want to manage uncertainty, you shouldn't be far away from technology, you should even follow technological changes and implement them in your school (G, MY-K).

[... I would say that uncertainty also has an impact on employees. Here, what the training manager needs to do is to inform his employees in a multifaceted way, otherwise an atmosphere of fear will quickly spread in the environment and disrupt the working atmosphere (H, MY-E).

[... You have to accept uncertainty, if a training manager integrated with the business accepts uncertain situations and considers himself competent to manage them, he can manage uncertainty (I, MY-E).

Table 5.

Themes, Categories and Subcategories of the Relationship Between Initiative Taking and Uncertainty Management

Main Theme	Category	Sub-Theme	A	B	C	D	E	F	G	H	I	
The Relationship Between Initiative Taking and Uncertainty Management	The Mindfulness Effect	Making Plans by Predicting			✓	✓					✓	
		Ability to Act Flexible in Uncertainty	✓				✓		✓			
		Recognizing the Unforeseen		✓	✓			✓		✓		
	Communication Impact	Instant Notification of Developments				✓		✓		✓		
		Providing Accurate Information	✓						✓			✓
		Supporting Stakeholders		✓		✓				✓	✓	
	The Impact of Creating Change	Researching for Change	✓						✓		✓	
		Innovativeness				✓	✓					✓
		Embracing Developments		✓					✓			✓
			Applying Changes to School		✓			✓		✓	✓	

When the findings of the main themes, categories and sub-themes of the relationship between initiative taking and uncertainty management are examined in Table 5, it is stated that the upper theme of the relationship between initiative taking and uncertainty management is changed from the sub-themes of "making plans by predicting, acting flexibly in uncertainty, recognizing unpredictable situations" to the "Awareness Effect" category, from the sub-themes of "instant news about developments, providing accurate information, supporting stakeholders" to "Communication." The category "Impact of Creating Change" was reached from the sub-themes of "researching for change, being innovative, adopting developments, applying changes to the school". The statements of the education administrators on the subject are as follows:

[... Taking initiative has an impact on uncertainty management. The training manager who takes the initiative is not cowardly and is always determined. It also recognizes uncertain situations in advance so that it can manage uncertainty more easily (B, OM-E).

[... Taking initiative definitely has an impact on uncertainty management, because a person who does not take initiative cannot be a training manager in my opinion. If you are a training manager, you already have to know how to take the initiative. Uncertain situations do not arise all at once, however, the training manager who plans and takes the initiative can manage the uncertainty. In one aspect, this is the ability of the training manager, who can take the initiative, to recognize the uncertainty D, OM-E].

[... Since the training manager who takes the initiative is always open to communication with his employees, he informs them instantly about the developments, thus managing uncertainty. The ability of the training manager to take the initiative is extremely important in terms of uncertainty management (C, OM-K].

[... Educational managers are already change-oriented, for them the old concept is called very bad, they always want to be innovative, and I think innovation is enough to manage uncertainty (D, OM-E].

Table 6.

Themes, Categories and Subcategories of the Relationship Between Career Planning and Uncertainty Management

Main Theme	Category	Sub-Theme	A	B	C	D	E	F	G	H	I	
The Relationship Between Career Planning and Uncertainty Management	Individual Impact	Collaborating with Employees	✓				✓				✓	
		Getting Employee Ideas				✓			✓			
		Not being intimidated by uncertain situations	✓						✓	✓		
		Respect for Employees			✓		✓					✓
		Being a Suitable Person for the Job		✓					✓			
		Ability to Take Initiative						✓			✓	
	Organizational Impact	Valuing Performance					✓			✓		
		Making Rational Decisions	✓					✓			✓	✓
		Increased Internal Communication				✓		✓				✓
		Balance of Authority and Responsibility				✓					✓	
		Clarity of Task Distribution	✓	✓						✓		

When the findings of the main themes, categories and sub-themes of the relationship between career planning and uncertainty management are examined in Table 6, the sub-themes of "cooperating with employees, getting the opinions of employees, not being afraid of uncertain situations, respecting employees, being a suitable person for the job, taking initiative" are included in the "Individual Impact" category, The category of "Organizational Impact" was reached from the sub-themes of "valuing performance, making rational decisions, increasing communication within the organization, balance

of authority and responsibility, clarity of task distribution". The statements of the education administrators on the subject are as follows:

[... Career planning has an impact on uncertainty management, and I think it has both a personal and organizational impact. Why? A person who wants to be successful in his education manager career enters a career planning process by knowing his strengths and weaknesses, and if he is successful, he rises. With such planning, the training manager consults the opinion of the employees to manage the uncertainty in uncertain situations and prefers to act in accordance with their opinion D, OM-E].

[... Career planning has an impact on uncertainty management. The training manager who makes career planning prefers to be an education manager by correctly identifying his talents and making future plans for his career, such a training manager knows how to take the initiative easily in uncertain situations H, MY-E].

[... The only thing that the education manager who makes career planning will do in case of uncertainty at school is to clearly determine the distribution of duties, so that he can manage the uncertainty in a better way B, OM-E].

[... The education manager who makes career planning is expected to do his best to increase communication in school environments in the institutional sense, and if he establishes the balance of authority and responsibility properly, he can also manage uncertainty C, OM-K].

[... The training manager who makes career planning can manage uncertainty better because he has good communication within the organization and makes rational decisions I, MY-E].

Results and Discussion

In the study, it was concluded that there is a positive and statistically significant relationship between uncertainty management and work engagement, taking initiative, and career planning. This result is similar to the results of Mazlum (2019), Yamen (2021), İnanır (2020), Altok (2019), Çelik (2019), Özkeskin (2019), Akdeniz (2018), Atik (2018), Kavgacı (2014), Sevil (2019), Tekin (2019), Tekeş (2018), Aydın (2021), Bulgur (2021) and Ece (2016). It can be said that it is related to the fact that education administrators feel very energetic, strong and vigorous in terms of work engagement, constantly looking for ways to do their jobs better in terms of taking initiative, creating new goals and objectives that they think will improve the school, taking more initiative in the school when there is uncertainty in the education processes, and taking precautions at the school for the problems that may arise from changes and innovations. Educational

organizations, as well as individuals, are disturbed by uncertainty due to the unpredictable prediction, complexity, and insecurity inherent in uncertainty (Clampitt & Williams, 2004). For this reason, organizations want their goals and structures to be determined in advance in written forms. From this point of view, even the areas of movement of the people working in organizations are determined by written rules. However, since the person is a social being, even if a set of written rules is created, not every social behavior in organizations can be put into written rules step by step. Therefore, in order to manage uncertainty, there is a need for qualified education managers who are able to take initiative, integrate with their work and make career planning in the field of education management.

Similarly, Midthassel, Bru & Idse (2000) define education administrators as those who take part in activities that contribute to the development of the school and take initiatives that support cultural changes. On the other hand, employees who integrate with their work always improve themselves in a determined and effective way by transferring their physical energy and bodies to their work. They use their minds by mentally developing new ideas and thoughts, finding solutions to problems. This shows that they are not afraid to take responsibility in a creative and innovative way, but rather brave. At the same time, they become emotionally attached to what they do, making sense of it and enjoying it. They involve themselves in the workflow, forgetting the difficulties they face while doing their job (Imperatori, 2017). When the level of career planning and initiative of training managers increases, the level of work engagement also increases. Training managers should be proud of their work in terms of work engagement, feel happy even in intense work and work in a state of being buried in work, try to do even jobs that are not clearly defined as the duty of a training manager in the legislation in taking initiative, providing rotation opportunities by evaluating according to talent and education status in terms of career planning, organizing job adaptation and orientation programs, career management and planning. It can be said that the implementation of written procedures and policies to guide their efforts, the provision of equal and fair promotion opportunities, and the enthusiasm and inspiration of the work of education managers in work engagement are related to their enthusiasm and inspiration, and their intense desire to go to their jobs.

In the study, it was concluded that work engagement is an important predictor of uncertainty management. According to Ashforth & Humphrey (1995) and Imperatori (2017), work-integrated individuals emotionally concentrate on what they do, make sense of it, and enjoy what they do. They immerse themselves in what they do, coping with the difficulties they face. By performing at a high level, they give their minds, hearts, and hands to their work. In short, an employee who is integrated with the work gives himself completely to his work. Such employees are always ready for action, determined and effective. They improve themselves by giving their bodily energy and body to their work. Mentally, they find solutions to problems by developing new thoughts and ideas. Employees who are integrated into their work are innovative and creative. They are not afraid to take responsibility and are brave. For this reason, it can be said that education

administrators, who feel very energetic, strong and vigorous while doing their jobs and believe that their work inspires and enthusiastizes them, will be more effective in uncertainty management by taking more initiative in their schools when there is uncertainty in their education processes, by creating more awareness in their schools of uncertainties caused by developments beyond their control, by not having difficulty in making decisions and by not ignoring uncertainties.

In the theme analysis made in the qualitative stage, the categories of "change effect, effect on employees, prediction effect, acceptance effect" were reached on the uncertainty management of work engagement. In contrast to the quantitative stage, the effects of work engagement on uncertainty management are expressed in sub-themes. According to training managers, the ability to anticipate innovations for the category of change impact on uncertainty management, the implementation of technological innovations; increasing contact with stakeholders for the category of impact on employees, informing employees in a multifaceted way, reassuring stakeholders; making the right plans for the category of predictive effect, easy implementation of instructions; For the category of acceptance effect, it is expressed as not rejecting uncertainty, not being afraid of uncertainty, and feeling competent for the education administrator.

Business-integrated education managers can see new ways to deal with uncertainty and use those new ideas in their schools or institutions when they use qualitative theme analysis to look at the category of change effect of work engagement on uncertainty management (Bakker & Schaufeli, 2008; Bakker & Leiter, 2010). New ideas, practices, and objects perceived by individuals and organizations are called innovations. By anticipating innovations, education managers can also develop alternative solutions to problems related to uncertainty, as well as produce new solutions for perceiving problems and needs (Clapham & Cooper, 2005). If the integrated education manager wants to bring about change in the situation of uncertainty, he must consciously choose the innovation perspective towards the realization of the school's goals, because organizations benefit themselves with rational reason. They prefer to implement innovations that are compatible with their goals (Hsiung, 2012). From the point of view of the education system, the questions of how the lessons will be taught in the coming years, how schools should be designed according to technology, whether students and teachers are ready for technological changes, whether technological devices will replace books or notebooks, and how the course contents should be compatible with technology remain unclear about the future. From this point of view, if the education manager, who is integrated with the business, wants to manage uncertainty in the name of change, smart boards, tablets, laptops, classmates, virtual glasses, distance education, etc., should follow technological innovations in the name of education and be able to carry out this together with all stakeholders.

When the category of qualitative theme analysis examines the effect of **work engagement on uncertainty management on employees**, training managers who are

integrated with their work can manage uncertainty by increasing contact with stakeholders in uncertainty management, informing employees in a multifaceted way and reassuring stakeholders (Demerouti et al., 2001). Teachers, parents, students and individuals or institutions outside the school are considered stakeholders of the school. Schools aim to ensure that teaching is carried out effectively in line with the predetermined objectives. In order to achieve this goal, all stakeholders have important duties. The duty of the education administrator is to ensure that all activities in the school are carried out together with all stakeholders in accordance with academic objectives. In line with these goals and task, the integrated training manager should try to ensure coordination by increasing contact with internal and external stakeholders in uncertain situations and demonstrating good governance (Mauno, Kinnunen & Ruokolainen, 2007). Uncertainty is a cognitive state that occurs because there are not enough clues about an event or because the event is not structured. Lack of knowledge can also be caused by insufficient experience, and even the interpretation of information can reveal significant problems. Therefore, if the training manager who is integrated with his job wants to manage uncertainty in uncertain situations, he needs to inform his employees in a multifaceted way (Hobfoll et al., 2003). From the point of view of educational institutions, teachers can react more emotionally than administrators to uncertainties in the implementation processes and may experience more feelings of disappointment, anxiety, and fear under uncertainty. For this reason, we can say that education managers who are integrated with the work that will comfort and guide teachers, students and parents under uncertainty can be more successful in uncertainty management.

When the category of predictive effect **of work engagement on uncertainty management is examined in qualitative theme analysis**, training managers who are integrated with their work can manage uncertainty by making the right plans and easily applying instructions in uncertainty management (Halbesleben & Wheeler, 2008). Management processes consist of various functions. Although it is referred to by different names in the literature, we can generally evaluate it under four headings as planning, organizing, directing, and supervising (Tortop, 2005). Planning, which is one of the functions of management processes, is the measure that will ensure the coordination between the strategies that will enable an organization to achieve its goals and the coordination between these strategies. Planning includes the means and goals of how and what to do (Tunçer, 2012). We can say that the training manager, who is integrated with the business, also needs to make the right plans in order to foresee uncertainty. The education system is among the systems most affected by the continuous changes in technological, sociological, political, and economic conditions. Since education managers are also involved in this change, they need effective planning to adapt to changing conditions (Hunt, Tourish & Hargie, 2000). A training manager who is integrated with his business can ensure that uncertainty management is combined through planning, make it possible to foresee changes by looking ahead, and most importantly, prevent waste of effort and time (Drucker et al., 2008). It appears with names such as directing, execution and command-command, which are the functions

of management processes (Tortop, 2005). However, the subject of the management function is human, and education managers are trying to fulfill the work by adhering to the plans within the human subject. The education manager, who is integrated with the work, is obliged to fulfill urgent tasks such as fulfilling orders and instructions, motivating teachers, and increasing communication within the framework of the decisions and plans taken in educational institutions in uncertain situations (Salanova et al., 2005). From this point of view, we can say that it is important for the education manager who is integrated with the business to get to know the teachers, students, and employees better, not to get stuck in the details, to operate the control mechanism, and to have an exemplary education manager around him in order to easily implement instructions in uncertainty management. When the **category of the acceptance effect** of qualitative theme analysis on uncertainty management of work engagement is examined, training managers who are integrated with their business can manage uncertainty by not rejecting uncertainty in uncertainty management, not being afraid of uncertainty and feeling self-sufficient. What people know is often not enough to explain existing situations and take steps towards the future (Prins et al., 2009). For this reason, people should adopt an attitude of acceptance of uncertain things. The integrated education manager must also learn to live with a modicum of uncertainty, accepting that we will not be able to fully know the universe today and in the future (Rothmann, Jorgensen & Hill, 2011). Considering that uncertainty is complexity, it must accept that knowledge will always be hidden. Uncertainties are seen as fears and threats in organizations (Koppenjan & Klijn, 2004). However, it should not be forgotten that uncertainty is an opportunity. Integrated education managers approach the fear of uncertainty with confidence in their coping processes and can recognize it as soon as it arises (Van den Bos, 2009). In this way, training managers, who can recognize it in advance, can control the uncertainty before it gets out of control. The atmosphere of the educational environment and the behavior of the educational administrator return to the school environment due to their mutual influence. Therefore, poor communication between the education administrator and school staff leads to a high level of uncertainty in the work environment (Van den Bos & Lind, 2002). The warm climate of the working environment can be explained by the communication skills of the training manager and the feeling of competence against uncertainty management (Berger, 1986). We can say that it is quite sufficient for the training manager, who is integrated with his job, to feel competent in the working environment, to put fair, clear information, and attitudes into practice in coping with uncertainty.

In the study, it was concluded that career planning is an important predictor of uncertainty management. This result shows that the career planning of the training manager has a certain effect on managing uncertainty. According to Karadal (2008), career planning is a process that concerns the person who wants to be successful in his career. The person evaluates his/her own knowledge, skills and interests, strengths and weaknesses and makes plans for his/her advancement in the organization. Organizations, on the other hand, should provide support with future-preparatory programs such as determining the training needs of their employees through

organizational career planning, evaluating success, increasing the level of job satisfaction and increasing their organizational commitment, encouraging them to go to business development and new departments. Because successful organizational planning is based on effective career planning (Şimşek & Soysal, 2004).

In the theme analysis made in the qualitative stage, the categories of "individual impact, organizational impact" were reached on the uncertainty management of career planning. In contrast to the quantitative stage, the effects of career planning on uncertainty management are expressed in sub-themes. According to the training managers, for the category of individual impact on uncertainty management, it is necessary to cooperate with employees, to get ideas from employees, not to be afraid of uncertain situations, to respect employees, to be a suitable person for the job, to take initiative; For the category of organizational impact, it is expressed as valuing performance, making rational decisions, increasing communication within the organization, establishing a balance of authority and responsibility, and having a clear distribution of duties.

When the category of individual impact of **qualitative theme analysis on the uncertainty management of career planning** is examined, it has become necessary to plan the development and growth of the personnel within the organization, considering the developments that may arise in the long term in terms of both the employee and the organization. Career planning is a process that consists of determining career goals and planning training and development programs that will achieve these goals by being aware of the individual, himself, his opportunities and limitations, the choices he makes and their consequences (Uzun, 2004). In the career planning process, the organization and the individual do not form different parties but work together as complementary parts. In this context, career planning emerges in two different dimensions, especially organization-centered and individual-centered (Dündar, 2013). Training organizations, like other organizations, attach great importance to job roles and the division of labor so that their employees can perform their duties faster (Erdoğan, 2003). However, developing technology and innovations in the design of jobs have increased the importance of collaboration rather than job roles and divisions of labor. Collaboration reduces the crude hierarchy that does not exist in training organizations and increases the level of interdependence of education workers (Heslin, 2005). Therefore, we can say that the cooperation of education managers in their individual career planning will have an impact on their management of uncertainty. As in all organizations, it is important to train organizations to care for and listen to the ideas of their employees and to show them that they are noteworthy through communication (Canman, 2000). In uncertain situations, it may be difficult for some employees to express their opinions freely, while others may find it difficult to get their opinions, in such a case, the education manager should prepare a good environment where all employees in the school or institution can express their opinions without hesitation. If the training manager shows that he takes the ideas of the employees and uses the ideas of the employees in his actions, it will also increase the commitment and performance of the employees towards their work

(Griffin, Phillips & Gully, 2019). Therefore, we can say that training managers' individual career planning will have an impact on the management of uncertainty. The concept of uncertainty is used together with the concepts of crisis, risk and confusion in the relevant literature. Uncertainties are seen as fears and threats in educational organizations (Smithson, Bammer & Group, 2008). However, it should not be forgotten that uncertainty is an opportunity: Successful education managers approach the fear caused by uncertainty with confidence in their processes of coping with uncertainty and can recognize it as soon as it arises (Grote, 2009). Therefore, we can say that the fact that education administrators are not afraid of uncertain situations in their individual career planning will have an effect on their management of uncertainty. From the point of view of educational institutions, respect for education workers can ensure that education workers are engaged, productive, and highly engaged (Wiltbank et al., 2009). In the same way, the training manager's respect for his employees can instill confidence in the employee and even increase the courage of the employee in uncertain situations, and the respect of the training manager for his employees can create a respectful and fair working environment, resulting in an environment where information sharing increases and stress decreases (Allen, Jimmieson, Bordia & Irmer, 2007). For this reason, we can say that the respect of training managers for their employees in their individual career planning will have an impact on their management of uncertainty. Whether the individual knowledge, skills, and attitude of the education administrator are suitable for education management is a question that needs to be mutually addressed. Organizational efforts to include and select competent, adequate, and qualified training managers in accordance with normative regulations are among the issues raised (Gamboa et al., 2009). We can say that the key word of being a suitable person for the job is "merit". Merit is the inclusion of competent and business-savvy people in the system as training managers (Uzun, 2004). Education managers, who will make individual career planning, should prefer the profession of education management if they deem themselves sufficient in terms of their knowledge, skills, and attitudes. Otherwise, the fact that people who are not suitable for the job with the union and crony sergeant relationship are education administrators will become the subject of uncertainty rather than managing the uncertainty and will also harm the educational pillar of social development (Çalık & Ereş, 2006). Therefore, we can say that the fact that education managers are suitable for the job in their individual career planning will have an impact on their management of uncertainty. Taking personal initiative positively increases both individual and organizational effectiveness (Frese, 2001). Since it increases organizational effectiveness, the interest of organizations in the concept of personal initiative is increasing day by day. Personal initiative is characterized by employees persistently fighting against pressure and obstacles and resolutely trying to achieve their goals (Frese, Garst & Fay, 2007). For this reason, we can say that the fact that education administrators take initiative in their individual career planning will have an impact on managing uncertainty.

When the organizational impact category of **qualitative theme analysis on the uncertainty management of career planning** is examined, competence is the set of

observable behaviors that include the knowledge, skills, and attitudes of the training manager in achieving his performance. In the context of the current situation, it seems difficult in terms of organizational career planning to say that education managers are selected by valuing their competence and performance (Turhan & Karabatak, 2015). The necessity of objectively evaluating and competency-based selection of education administrators, objectively distinguishing them from average or high performers from the moment they are included in the system, and valuing their performance are among the facts expected to be done today (Bozkurt, Ergun & Sezen, 2014). Because, when considered in terms of educational organizations, uncertainty can only be managed by qualified and competent education managers. Therefore, we can say that valuing the performance of training managers in their organizational career planning will have an effect on managing uncertainty. Rationality is the determination of human actions that are future-oriented and purposeful. Decision-making is the heart of management processes and the axis of all processes (Dündar, 2013). From this point of view, the education manager is not only the administrator or manager, but also the decision-maker. We can say that a rational decision is one that maximizes utility for educational organizations, because a rational decision is one that can balance the preferences and judgments of the decision-maker with values and uncertainty about the results (Tortop, 2005). Therefore, we can say that the rational decision-making of education managers in organizational career planning will have an impact on managing uncertainty. Organizational communication is the process of sending and receiving verbal or non-verbal messages within the organization, and this communication is also shaped according to the organizational structure (Greenhaus & Callanan, 2006). Intra-organizational communication is the coordinated and planned communication of education employees gathered for a common purpose to achieve this goal (Anafarta, 2001). Thanks to intra-organizational communication, education employees exhibit their behaviors accordingly and learn what they should and should not do (Özgen, Öztürk & Yalçın, 2002). Therefore, we can say that increasing communication within the organization in the organizational career planning of training managers will have an impact on managing uncertainty. Authority is the power to give orders, to obey them, to make decisions to achieve predetermined goals, and to have others do work (Çalık & Ereş, 2006). Responsibility, on the other hand, is the state of being obliged, accountable, in short, responsible (Uzun, 2004). When considered in terms of educational organizations, the authority and responsibility given to education administrators should be equal, which is also one of the basic principles of effective management (Bursalıoğlu, 2003). However, both theoretically and practically, we can say that the balance of authority and responsibility of education managers has not been established. Because, although the powers of education administrators are very limited in normative regulations, their level of responsibility is abstract and quite high, and even education administrators sometimes take part in or are employed in authorized positions in jobs for which they are not responsible. This situation emerges as a separate problem that contains uncertainty rather than managing uncertainty (Mowles, 2015). Authority without responsibility leads to abuse of authority, and unauthorized responsibility leads

to non-performance of work (Bozkurt, Ergun & Sezen, 2014; Tortop, 2005). Therefore, we can say that establishing a balance of authority and responsibility in the organizational career planning of education managers will have an effect on managing uncertainty (Smith, 2016). Considering that human relations are at the forefront in educational institutions, it is not possible to come across a rough hierarchical structure, but this situation brings with it uncertainty about what the duty of the education administrator is. The main reason for this uncertainty is the argument that the education administrator can do any job according to classical understanding (Bursalıoğlu, 2003). This argument causes the job description and distribution of the training manager to be unclear and to create uncertainties, so we can say that the clear distribution of duties in the organizational career planning of training managers will have an effect on managing uncertainty.

In the study, it was concluded that taking initiative is an important predictor of uncertainty management. This result shows that the training manager's initiative has a certain effect on managing uncertainty. Frese et al., (1996) concluded that people with a high level of personal initiative adopt a long-term approach when struggling with difficulties, overcoming problems, and considering alternative options for doing a job. According to Crant (2000), employees who take initiative are more passive and reactive in contrast to a pattern of behavior, while proactive people actively seek out knowledge and opportunities to improve things; They do not passively wait for information and opportunities to come to them. The education administrator constantly seeks ways to enhance job performance and professional development. They address work-related issues proactively, undertake tasks beneficial to the school even if not explicitly mandated by legislation, and aspire to shoulder significant responsibilities. In the face of challenges, the administrator persists in seeking solutions, employing various communication resources to navigate uncertainty in managerial processes. Effectively managing uncertainty involves obtaining diverse information about complex situations at the school, supporting employees to alleviate fears and concerns arising from uncertainty, and promptly adapting to changes and innovations in education.. It can be said.

In the theme analysis made in the qualitative stage, the categories of "awareness effect, communication effect, change creation effect" of taking initiative on uncertainty management were reached. In contrast to the quantitative phase, the effects of taking initiative on uncertainty management are expressed in sub-themes. According to education administrators, effective uncertainty management involves creating predictive plans to address the awareness impact category, demonstrating flexibility in the face of uncertainty, and recognizing unpredictable situations. In terms of communication impact, administrators emphasize the importance of providing timely updates on developments, furnishing accurate information, and supporting stakeholders. Additionally, for the change creation effect category, administrators highlight the significance of researching for change, fostering innovation, embracing developments, and implementing changes within the school. When the category of the awareness effect of **qualitative theme analysis**

on uncertainty management is examined, personal initiative is a set of actions initiated by the person himself, in harmony with the vision and mission of the organization, goal and activity-oriented, long-term, persistent in the face of difficulties and struggles (Frese, 2005). Education managers with a high level of personal initiative take a long-term approach to tackling challenges, overcoming problems, and considering alternative options for doing a job (Parker, Bindl & Strauss, 2010). Because a long-term approach leads people to exhibit a proactive behavior approach rather than waiting until problems arise. In this way, education managers who take the initiative can make predictive plans for uncertainty management, act flexibly in uncertainty situations and recognize unpredictable situations (Frese & Fay, 2001). Since future situations are shaped by today, planning is done to deal with future events (Syrett & Devine, 2014). By planning, the training manager who takes the initiative can see future risks, threats, and opportunities, predict the future, choose between options by setting priorities and manage uncertainty (Clampitt & Williams, 2004). Management has its own principles, and the principle of flexibility is not rigid, but it can be adapted from situation to situation within the organizational structure (Silva & Ferreria, 2017). Educational organizations are forced to change under the influence of the internal and external environment. In order to keep up with these changes, educational organizations are expected to have a dynamic structure, and the training managers who will manage this structure are expected to act flexibly in uncertain situations by following the principle of flexibility and taking initiative in order to manage uncertainty (Teece, Peteraf & Leih, 2016). In uncertain situations, managers are expected to make decisions by understanding or reducing uncertainty as much as possible. Since it is not possible to completely eliminate uncertainty, it is critical for education managers to make predictions in order to make decisions about the future (Naswall, Hellgren & Sverke, 2008). The prediction must have a rational explanation. Because foresight is not knowing the future but making it easier to understand the future. In addition, training managers who take the initiative should have the competence to understand and use foresight in uncertainty management.

When the category of the communication effect of **qualitative theme analysis on the uncertainty management of initiative** taking is examined, communication is a shared and jointly beneficial process that occurs with an exchange relationship between the sender of the message and the receiver of the message (Griffin, 2012). Interaction, on the other hand, is the process by which individuals mutually influence each other, which reveals that the individual is in constant interaction with his environment and other individuals (Lantz & Andersson, 2009). From this point of view, if the education administrator who takes the initiative wants to manage uncertainty, he should always be able to keep the communication channels open with school employees, internal and external stakeholders, and should always be able to inform his internal and external stakeholders about instant developments by interacting in uncertain situations (Kramer, 1999). In a fundamental sense, truth is the determining concept of knowledge, because every knowledge claims to be true is either false or true (Brashers, 2001). For this reason, one of the features that make information information is the ability of information to be true or false. From this point of view, the training manager who takes the initiative should

try to provide accurate information to his employees by separating the right from the wrong in uncertainty management (Nikolaidis, Mourelatos & Pandey, 2011). It seems very important today to know what kind of impression educational organizations have in the eyes of internal and external stakeholders and to determine the quality of the level of coordination between them (Cicero, Pierro & Knippenberg, 2010). From this point of view, the training manager should determine what his stakeholders expect from the organization and try to align the messages from the stakeholders with the goals of the training organization (Rayner, 2018). In addition, it should be able to support and receive support from stakeholders. In order to achieve this, the training manager who takes the initiative should prepare a communication plan in uncertain situations and should know which stakeholder should be able to reach which stakeholder with which message, how to get support from stakeholders and how to support stakeholders.

When qualitative theme analysis examines the category of the **effect** of initiative on uncertainty management, change may not always occur under the supervision or guidance of the training administrator (Teece, Peteraf & Leih, 2016). We can think of this situation as a kind of unplanned changes. Unplanned changes can occur without the influence of the training manager or by chance. In uncertain situations, education managers who have not planned, do not have a plan, do not have predictions about the future, and do not do research may face unplanned changes (Berkes, 2007). In planned change, there is research and the special efforts of the education manager. Training managers who take the initiative should also be able to initiate planned change by reviewing performance gaps in uncertain situations and conducting research to close them (Henisz, & Delios, 2001). When considered in terms of educational organizations, we need to look at the concept of innovation as a value for people who receive education services rather than looking at it as technology or science (Kasperson, 2008). As it is known, innovation originates from the outside rather than from within in educational organizations, as in other organizations (Ashforth & Humphrey, 1995; Imperatori, 2017). Knowing what is required and identifying the needs of education stakeholders can provide easier access to new technology and information (Fay & Frese, 2000). Based on the argument that there is a high risk in innovation, it is highly likely that most of the education manager's innovation efforts will fail in uncertain situations (Van Asselt & Vos, 2006). Because even in normal times, it can be difficult for training organizations to achieve success and the process can take years. In addition, it may seem impossible for educational organizations to determine the scale of success that innovation will bring, or nothing may be certain until it happens (Angkiriwang, Pujawan & Santosa, 2014). From this point of view, the education manager who takes the initiative is expected to be innovative in the effect of creating change in uncertain situations, to look at innovation as a value for those who receive education services in terms of their institution, and to work patiently and devotedly for innovation that takes a long time (Turgut, 2011). In terms of educational organizations, development is an important concept as a response to the incredible changes that have left their mark today. Development is a fundamental tool for achieving qualitative changes in scientific, communicative, technological, and political dimensions (Bakker & Demerouti, 2008). In order to ensure

development in educational organizations, there is a need for training managers who have a good command of the structure of the training organization, can take initiative, communicate with people, and adopt developments in uncertain situations. Changes necessitate a review and reorganization of the organization, management, school-environment relations, learning-teaching process, and educational functions of schools (Fredrickson, 1998). In fact, a change from the structure called central management to the school's student-centered structure is changing direction day by day. Because of uncertain situations, unclear practices, assessments, principles, and management styles directly affect the implementation or change of changes in the school. Therefore, there is a need for qualified education managers who can take initiative in uncertain situations and successfully manage changes.

Recommendations

Based on the results obtained from the research, the following suggestions have been developed for the research and for the researchers.

Research Recommendations

1. In the quantitative part of the study, it was determined that education administrators were an important predictor of work engagement, initiative, career planning and uncertainty management. Therefore, necessary studies should be carried out to improve the level of integration of education managers with work, taking initiative and career planning.
2. In the qualitative part of the research, it is stated that uncertainty can be managed even better with a flexible management approach, applying changes to the school, coming to work with merit and not being afraid of uncertainty. Therefore, necessary studies should be carried out to select education administrators on the basis of merit.

Recommendations for Researchers

1. In the relevant literature, it has been observed that the quantitative research on uncertainty management, work engagement, initiative and career planning does not include the effect sizes regarding whether they work in practice or not. From this point of view, meta-analysis research can be considered by considering these variables holistically or singularly.
2. In the relevant literature, it has been observed that qualitative research on uncertainty management, work engagement, initiative, and career planning is very rare. Qualitative research on these variables will be conducted, and when the number of qualitative studies increases, metasynthesis research for these studies can be considered.

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Genişletilmiş Türkçe Özet

Eğitim yöneticilerinin işle bütünleşme, inisiyatif alma ve kariyer planlamasının belirsizlik yönetimini yordamasını amaçlayan bu araştırma, nicel ve nitel araştırma yöntemlerinin birlikte uygulandığı karma yöntem araştırmasıdır. Karma yöntemle desenlenen bir araştırmada, probleminin aydınlatılması için desen seçimine karar veren “etkileşim seviyesi, önceliği belirleme, zamanlamayı belirleme, nicel ve nitel verileri nasıl ve nerede birleştirileceğini belirleme” anahtar kavramları kullanılarak bu araştırma için açıklayıcı sıralı desen kullanılmaya karar verilmiştir. Bu araştırmada açıklayıcı sıralı desen (explanatory sequential design) ve bu desenin alt deseni olan takip eden açıklamalar deseni (follow-up explanations variant) kullanılmıştır [MMR(f)=QUANTITATIVE x qualitative, NİCEL→nitel]. Bu desen ilk önce nicel aşamanın verilerinin toplanması ve analizini, daha sonra nitel verilerin toplanması ve analizini içermektedir. Nicel araştırma, betimsel tarama modelinde yürütülmüştür. Araştırmanın nitel deseni ise durum çalışmasının iç içe geçmiş tek durum desenine göre yürütülmüştür. Bu araştırmanın paradigması hem realizm hem de idealizm felsefelerini bir araya getiren “işe ne yararsa” yönelimli pragmatizmdir. Araştırmanın nicel çalışma evrenini, Konya ili merkez Karatay, Meram ve Selçuklu ilçelerinde görev yapan eğitim yöneticileri oluşturmaktadır. Örneklem dahil edilen eğitim yöneticileri olasılıklı tekniklerden basit tesadüfi örneklem tekniği ile seçilmiştir. Öte yandan araştırmanın nitel kısmında, amaçlı örneklem yöntemlerinden “ölçüt örneklem” tekniği kullanılmıştır. Ölçüt örneklem tekniği, araştırmanın amacına uygun olarak belirli kriterleri taşıyan bireylerin araştırma kapsamına dahil edilmesidir. Bu araştırmada ölçüt olarak eğitim yöneticilerinin “merkez veya taşra teşkilatında yönetici olarak çalışıyor olmaları, eğitim yöneticiliği alanında lisansüstü eğitim yapmış olmaları, ölçme araçlarına düşük puan vermiş olmaları” esas alınarak belirlenmiştir. Bu kriterleri sağlayan dokuz eğitim yöneticisi gönüllük esasına göre araştırmaya dahil edilmiştir. Belirsizlik Yönetimi Ölçeği Mazlum (2019) tarafından geliştirilmiştir. Ölçek, kontrol dışı güçler, örgütsel değişim, yönetici-çalışan ilişkisi ve iletişim, belirsizlik toleransı faktörleri altında otuz bir madde ve dört boyuttan oluşmaktadır. İşle Bütünleşme Ölçeği Schaufeli, Bakker & Salanova (2006) tarafından geliştirilmiştir. Ölçeğin kısa versiyonu ise Türkçeye Özkalp & Meydan (2015) tarafından tercüme edilmiştir. Ölçek, yazarların kavramsallaştırmasına uygun olarak zindelik, adanmışlık ve yoğunlaşma olmak üzere dokuz madde ve üç faktörden oluşmaktadır. İnisiyatif Alma Ölçeği Akın (2012) tarafından geliştirilmiştir. Ölçek, proaktiflik, kendiliğinden başlama, ısrarcılık olmak üzere otuz iki madde ve üç faktörden oluşmaktadır. Kariyer Planlaması Ölçeği Aydın (2010) tarafından geliştirilmiştir. Ölçek on dört madde ve tek boyuttan oluşmaktadır. Araştırmada kullanılan ölçme araçları için yapılan doğrulayıcı faktör analizi yapılmıştır. Araştırmanın nitel aşamasında, nicel analizlerden elde edilen sonuçların derinlemesine açıklanabilmesi için yarı yapılandırılmış görüşme formu kullanılmıştır. Araştırmanın nicel kısmında SPSS 25 ve AMOS 23 paket programları kullanılmıştır. Araştırmanın nitel kısmında NVIVO 10 paket programı kullanılmıştır. Nitel veri analizini “tema analizi, betimsel analiz, içerik analizi ve analitik genelleme” olmak üzere dört gruba ayrılmaktadır. Bu araştırma içih tema ve

betimsel analizler yapıldıktan sonra analitik genellemeye gidilmiştir. Araştırmada, nitel verilerin kodlama işlemlerinin güvenilirliğinin hesaplanması için kappa analizi yapılmıştır. Araştırmaya dahil edilen tüm değişkenler arasında pozitif ve istatistiki olarak anlamlı bir ilişkinin olduğu görülmektedir. İşle bütünleşme, inisiyatif alma ve kariyer planlamasının belirsizlik yönetimini yordamasına ilişkin çoklu regresyon analizi sonuçları incelendiğinde bütün değişkenlerin belirsizlik yönetimini yordadığı bulgusuna ulaşılmıştır. İşle bütünleşme ile belirsizlik yönetimi arasındaki ilişkiye ait üst temasına ilişkin olarak “yenilikleri önceden görebilme, teknolojik yenilikleri uygulama” alt temalarından “Değişim Etkisi” kategorisine, “paydaşlarla temasın artması, çalışanları çok yönlü bilgilendirme, paydaşları rahatlatma” alt temalarından “Çalışanlara Etkisi” kategorisine, “doğru planlamalar yapma, talimatları kolayca uygulama” alt temalarından “Öngörme Etkisi” kategorisine, “belirsizliği reddetmeme, belirsizlikten korkmama, kendini yeterli hissetme” alt temalarından “Kabul Etkisi” kategorisine ulaşılmıştır. İnisiyatif alma ile belirsizlik yönetimi arasındaki ilişkiye ait üst temasına ilişkin olarak “öngörerek planlamalar yapma, belirsizlikte esnek davranabilme, öngörülemez durumları fark etme” alt temalarından “Farkındalık Etkisi” kategorisine, “gelişmelerden anlık haber verme, doğru bilgi verme, paydaşlara destek olma” alt temalarından “İletişim Etkisi” kategorisine, “değişim için araştırma yapma, yenilikçi olma, gelişmeleri benimseme, değişiklikleri okula uygulama” alt temalarından “Değişim Yaratma Etkisi” kategorisine ulaşılmıştır. Kariyer planlaması ile belirsizlik yönetimi arasındaki ilişkiye ait üst temasına ilişkin olarak “çalışanlarla iş birliği yapma, çalışanların fikirlerini alma, belirsiz durumlardan ürkmeme, çalışanlara saygı duyma, işe uygun insan olma, inisiyatif alabilme” alt temalarından “Bireysel Etki” kategorisine, “performansa değer verme, kararları rasyonel verme, örgüt içi iletişimin artması, yetki ve sorumluluk dengesi, görev dağılımının netliği” alt temalarından “Örgütsel Etki” kategorisine ulaşılmıştır. Araştırmadan elde edilen sonuçlardan yola çıkarak araştırmaya yönelik ve araştırmacılara yönelik öneriler geliştirilmiştir.

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