

# Determining The Motivation Levels of Employees in The Forest Products Industry

Ibrahim Yildirim \* and Mustafa Han

This research assessed employee motivation levels within the forest products industry. A total of 1,175 individuals engaged in diverse roles across the sector were involved in the study. Data collection relied on the administration of questionnaires. The findings highlighted key motivational factors. Notably, “wages, social rights, and work environment” emerged as the primary contributors to mood and motivation. Similarly, the factors encompassing “wages, social rights, reward systems, and bonuses” ranked highest in terms of motivational tools. Job satisfaction was primarily influenced by “wages and the fulfillment of individual needs.” Furthermore, the study revealed that “education, talent, industriousness, and self-sacrifice” were predominant among influential factors. When it came to desired managerial qualities, “staffing and interpersonal skills” took precedence. Material rewards like “leave entitlements and wage increases” were the foremost considerations for recognizing achievement. During the company selection process, employees considered wage conditions, insurance, social opportunities, health and safety measures, job security, management approach, and growth prospects as vital factors, in descending order of importance.

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Contact information: Department of Forest Industrial Engineering, Karadeniz Technical University Trabzon 61080 Turkey; \*Corresponding author: [ibrahim@ktu.edu.tr](mailto:ibrahim@ktu.edu.tr)

## INTRODUCTION

Due to the global economic expansion and rapid technological advancements, institutions and organizations are compelled to optimize their production resources to enhance their overall production framework. Among these resources, employees stand out as pivotal components of the production process. Central to the realm of work life are the critical factors of job satisfaction and motivation. These elements are instrumental in fostering a conducive work environment. However, despite their significance, the exploration of the profound impact of job satisfaction and motivation remains relatively limited. It is imperative that institutions recognize the essentiality of nurturing high levels of job satisfaction and motivation among their employees to bolster efficiency and effectiveness. This dearth of comprehensive exploration prompts a call for heightened attention to these fundamental aspects within every organization. Supporting this viewpoint, recent scholarly works (Rahimic *et al.* 2012; Solanki 2013; Varma 2017; Hitka *et al.* 2020; Mappamiring *et al.* 2020; Paais and Pattiruhu 2020) emphasize the indispensability of job satisfaction and motivation. As elucidated in these studies, these factors play a crucial role in influencing employee performance and organizational success.

The concept of motivation is notably intricate, evoking extensive discourse among

researchers and resulting in a plethora of definitions within the literature. Whisenand and Rush (1988) elucidate that motivation entails the voluntary engagement in activities and is shaped by actions aimed at fulfilling inherent needs. Schunk *et al.* (2008) provide a distinct perspective, defining motivation as the driving force behind initiating and sustaining actions and endeavors towards specific objectives. Bartol and Martin (1998) contribute by characterizing motivation as the dynamic that invigorates behavior, lends direction to conduct, and underscores the inclination for persistence. Furthermore, Mitchell (1982) encapsulates motivation as encompassing the psychological mechanisms responsible for stimulating, directing, and perpetuating actions. The multifaceted role of motivation is particularly critical for employees (Paais and Pattiruhu 2020). Within its definition, three pivotal facets emerge: arousal, direction, and the perpetuation of behavior (Mitchell 1982; Jalagat 2016). As motivation is inherently linked with action, both internal and external forces exert influence upon it. This realization permits the classification of motivation into two overarching categories: intrinsic, characterized by the engagement in activities for their inherent rewards; and extrinsic, where activities are pursued with the intention of attaining positive outcomes or averting negative consequences (Mitchell 1982; Deci *et al.* 1989; Deci and Ryan 2000; Jalagat 2016).

The Forest Products Industries in Turkey are exclusively under the purview of the private sector. This sector is composed of 87% micro, 10% small, and 3% medium and large enterprises, as indicated by data from the Social Security Institution (SGK 2020). The Social Security Institution's data further reveals that the forest products industries employ a total of 10,606 enterprises and 66,003 employees within the wood products sector, 3,119 enterprises and 67,644 employees in paper and paper products manufacturing, and 23,266 enterprises with 174,178 employees in furniture manufacturing. Altogether, these sectors contribute to a total of 36,991 enterprises employing 307,825 individuals within the forest products industry in Turkey (SGK 2020). Turkey's role in the global timber production landscape is significant, ranking 13<sup>th</sup> out of 166 countries with a 1.6% share. Additionally, Turkey's contribution to world furniture production stands at approximately 1%, a proportion that has exhibited an upward trajectory in recent times (Kara *et al.* 2019).

The wood-based panel industry holds significance in Turkey, primarily due to its substantial production scale and substantial foreign trade involvement (Akyuz *et al.* 2020). This sector directly employs a workforce of over 400,000 individuals and commands an impressive sector size of 12 billion USD (Dogan and Akyildiz 2017). The collective production capacity for panels reaches an impressive 12.5 million m<sup>3</sup> annually. This capacity has propelled Turkey to become the leading MDF producer in Europe and second globally, trailing only China. Furthermore, in terms of particleboard production, Turkey ranks as Europe's third-largest producer, following Russia and Germany. On a global scale, it stands as the fifth-largest producer, trailing China, the US, Russia, and Germany. In the realm of laminate flooring, Turkey clinches a spot in the top three producers alongside Germany and China. Impressively, Turkey contributes 5% to the worldwide panel production and meets 9% of the global laminate flooring production (Dogan and Akyildiz 2017).

The forest products sector in Turkey is experiencing robust growth and holds significant economic importance for the country. In the last decade, there has been a remarkable 17.5% increase in the number of enterprises, coupled with a substantial 27.3% rise in the workforce within the sector. A few studies were concentrated on motivation levels of employees in the forest products industry. Trishkin *et al.* (2014) investigated the attitudes and motivations of certified and noncertified forest industry companies in

northwestern Russia. Their findings led to the conclusion that discerning the primary motivating factors uncovered variations in motivation and attitudes between the certified and noncertified respondent groups. Aydin and Tiryaki (2017) examined whether there are variations in the productivity and motivational effects of performance appraisal systems, as well as performance appraisal practices, at the sub-sector level and based on the demographic characteristics of participants. This research was conducted on 432 individuals employed in 14 Forest Product Enterprises. The study found that there was no discernible distinction among the sub-sectors of the forest products industry regarding the performance appraisal system's sub-factors. Additionally, the results of variance analysis conducted with respect to demographic characteristics revealed no significant disparities among age groups. However, noteworthy variations emerged within the performance appraisal sub-factors when considering education status, gender, marital status, position, and total years of work experience (Aydin and Tiryaki 2017). Aydin and Tiryaki (2018) studied the impact of performance appraisal on employee motivation and productivity within the Turkish forest products industry, employing a structural equation model for analysis. They reported that performance appraisal had a significant impact on both employee motivation and productivity. Lorincova *et al.* (2018) endeavored to identify and substantiate distinctions in the perception of motivation levels across managerial, white-collar, and blue-collar workforce segments. Their findings led to the conclusion that there are statistically significant disparities in the perception of motivation among managers, white-collar employees, and blue-collar workers. These distinctions were corroborated in several motivation factors, including the workplace atmosphere, teamwork, basic salary, and the fairness of the appraisal system. Moreover, the research outcomes indicate that, in contrast to blue-collar workers, managers and white-collar employees exhibit a preference for similar motivation factors, such as a conducive workplace atmosphere and effective teamwork. Hitka *et al.* (2019) studied the motivational priorities of white-collar employees in forest enterprises. They determined that salary, workplace conditions and fair appraisal system are the key motivational factors. These motivational factors can be methodically employed as instruments for enhancing the motivation levels within specific groups. It is crucial to acknowledge that work conditions and environments evolve over time, necessitating the regular updating of an effective motivation program to ensure long-lasting benefits (Hitka *et al.* 2019). The effect of COVID-19 pandemic on employee motivation in agriculture and forest organizations was studied by Hitka *et al.* (2022). Their study revealed that the COVID-19 pandemic significantly impacted human resource management, with a primary focus on employee motivation in agricultural and forestry organizations. The study assessed the extent to which selected socio-demographic factors, including age and gender, influenced employee motivation levels during the pandemic (Hitka *et al.* 2022).

The aim of this study was to assess the motivation levels and work life quality of employees in Turkey's forest products industry. This research contributes to the field of human resource management, specifically focusing on motivation within the forest products industry, which holds substantial economic significance for the country.

## EXPERIMENTAL

### Materials

The analysis encompassed a comprehensive assessment of 1,175 questionnaires administered to employees across diverse sectors, including furniture, board, paper, non-

wood forest products (NWFP), and services. These sectors are distributed extensively across various regions of Turkey. The research cohort is composed of employees occupying diverse roles within the forest products industry.

## Methods

A 5-point Likert-type questionnaire, employing a scale ranging from 1 (Never Affect) to 5 (Highly Affects), was employed for data collection, addressing both motivation and quality of work life. The questionnaire was divided into two main sections: the initial part encompassing sixty questions to assess demographic characteristics, and the subsequent part to gauge motivation and quality of work life. Within the latter, 30 questions were devoted to evaluating motivation levels, while the remaining 30 focused on assessing work life quality. Each section was further segmented into six sub-factors, each composed of five questions. The reliability of these questions was assessed through Cronbach's Alpha coefficient, yielding a robust overall value of 92.7% across the entire 60-question spectrum. Specifically, Cronbach's Alpha was computed at 87.9% for the 30 questions concerning motivation levels and 89.5% for the 30 questions pertaining to work life quality. To ensure comprehension and consistency, the study utilized the scale featured in Cicek's doctoral research (2005), employing the same 5-point Likert-type format.

For statistical analysis, the study employed independent sample t-tests to discern any statistically significant disparities in motivation levels and work life quality among employees with differing demographic attributes. Furthermore, the one-way ANOVA test was employed for comparing means across three or more groups (Kalayci 2018).

The intricate relationship between motivational sub-factors (*e.g.*, Factors Affecting Mood and Motivation Level, Motivation Tools, Factors Determining Job Satisfaction, Valid Factors in Promotion, Managerial Qualifications, Rewards for Success) and work life quality sub-factors (*e.g.*, Moral and Factors Affecting Motivation Level, Motivation Tools, Factors Determining Job Satisfaction, Valid Factors in Promotion, Managerial Qualifications, Rewards for Success) were explored through multiple regression analysis. All statistical analyses were performed using the SPSS 22 statistical software package.

The below hypotheses were formulated:

H<sub>1</sub> A1, A2, A3, A4, A5, A6: Motivation levels of employees in the forest products industry vary according to the examined demographic characteristics,

H<sub>1</sub> A7, A8, A9, A10, A11, A12: Quality of work life levels of employees in the forest products industry varies according to the examined demographic characteristics,

H<sub>2</sub> A1, A2, A3, A4, A5, A6: Sub-factors of motivation levels of employees in the forest products industry are affected by sub-factors of quality of work life.

## RESULTS AND DISCUSSION

### Findings on Demographic Characteristics of Employees

The statistical distribution of demographic characteristics of the employees in the forest products industry is given in detail in Table 1. Within the forest products industry, the male workforce constitutes 85.1% of the total workforce. Among them, 49% are employed in the furniture sector, while 34.3% are engaged in the panel sector. In terms of job roles, 63.5% of employees occupy worker positions, with 41.6% falling within the age range of 26 to 35 years. Furthermore, 44.4% of participants have a tenure of 2 to 5 years, while 44.8% hold high school degrees (Table 1).

**Table 1.** Statistical Data on Demographic Characteristics of the Employees

Field	Amount (N)	Percent (%)	Gender	Amount (N)	Percent (%)
Furniture	576	49.0	Male	1000	85.1
Panel	403	34.3	Female	175	14.9
Paper	100	8.5	Marital Status	Amount (N)	Percent (%)
NWFP	61	5.2	Married	752	64.0
Service	35	3.0	Single	423	36.0
Education	Amount (N)	Percent (%)	Age	Amount (N)	Percent (%)
Elementary School	146	12.4	18-25	285	24.3
Middle School	213	18.1	26-35	489	41.6
High School	526	44.8	36-40	222	18.9
Vocational School	133	11.3	41-50	147	12.5
Bachelor	157	13.4	Over 51	32	2.7
Position	Amount (N)	Percent (%)	Service Year	Amount (N)	Percent (%)
Employee	746	63.5	1 year or less	181	15.4
Technician	97	8.3	2- 5	522	44.4
Expert	56	4.8	6-10	281	23.9
Engineer	132	11.2	11-20	161	13.7
Office Workers	96	8.2	Over 21	30	2.6
Others	48	4.1			

### Findings on Motivation Levels of Employees

The statistical distribution of employees in the forest products industry based on their motivation levels is given in Table 2 with sub-factors. Ranked with an average score of 4.27, the factor “Wages, social rights, and work environment” emerged as a notable contributor to employee motivation. It secured the lead position in terms of influencing mood and motivation levels. Conversely, “Wages, social rights, award, and bonus system” claimed the prime position among motivational tools with an average score of 4.29, significantly impacting job satisfaction. Similarly, the factor “Satisfying wages and individual needs” commanded the forefront of work satisfaction, boasting an average score of 4.28. Within the realm of attributes pertinent to promotion, “Education, talent, industriousness, and self-sacrifice” took precedence with an average score of 4.19. Additionally, “Orientation of personnel and human resources” dominated the domain of administrator-related factors with an average score of 4.23. Furthermore, “Material rewards such as leave and salary increase” led the category of award-related factors with an average score of 4.22. This category encompassed various awards that acknowledged success (Table 2).

In a comparative context, Gedik *et al.* (2018) reported an average work motivation score of 4.28 in their study. Aydin and Ucuncu (2016) found a motivation average of 4.23 in their research. Aksu’s (2001) study highlighted premium wages as a motivating factor, accounting for 14.1%, followed by wage increases and appreciation at 13%. Furthermore, Gedik (2010) reported an average score of 3.11 for the sub-scale that addressed equal promotion opportunities for employees.

**Table 2.** Statistical Data on Motivation Sub-levels of Employees

A1	Factors affecting mood and motivation level	$\bar{X}$	S.S	Group Number	General Number
A1.1	Achievements and appreciation at work	4.14	0.85	2	7
A1.2	Family life and personal problems	3.87	1.01	5	24
A1.3	Wages, benefits and work environment	4.27	0.83	1	3
A1.4	Opportunity for self-development with authority and responsibilities	3.99	0.94	3	20
A1.5	Relationships, communication and communication with managers	3.97	0.96	4	21
	Average	4.06	0.62		
A2	Motivation tools				
A2.1	Training and promotion opportunities	4.00	0.95	2	16
A2.2	Delegation of authority and responsibility	3.98	0.86	3	18
A2.3	Participation in management decisions	3.89	0.96	4	23
A2.4	Wages, social benefits, award and bonus system	4.29	0.80	1	1
A2.5	Competition conditions and performance evaluation	3.57	1.14	5	30
	Average	3.95	0.64		
A3	Factors determining job satisfaction				
A3.1	Promotion and self-development	3.99	0.86	4	17
A3.2	Working conditions	4.08	0.76	2	13
A3.3	Cooperation and communication	3.93	0.90	5	22
A3.4	Salary and meeting individual needs	4.28	0.78	1	2
A3.5	Mood, motivation and professional prestige	4.02	0.91	3	15
	Average	4.06	0.57		
A4	Factors applicable to promotion				
A4.1	Appearance and representation	3.72	1.03	5	28
A4.2	External pressures and attendance	3.87	0.91	4	25
A4.3	Service time and experience	4.14	0.85	2	8
A4.4	Good relations with administrators, communication and human relations	4.10	0.82	3	11
A4.5	Education, talent, diligence and dedication	4.19	0.86	1	6
	Average	4.01	0.60		
A5	Qualifications considered in a administrator				
A5.1	Self-confidence and using tolerance	4.13	0.80	2	9
A5.2	Education, knowledge, experience, rank and seniority	4.12	0.83	3	10
A5.3	Physical abilities	3.85	0.92	5	26
A5.4	Planning ability and self-assertion	4.06	0.89	4	14
A5.5	Directing staff and human relations	4.23	0.92	1	4
	Average	4.08	0.56		
A6	Awards factor in return success				
A6.1	Financial rewards such as leave and pay raises	4.22	0.851	1	5
A6.2	Training and promotion opportunities	4.09	0.857	2	12
A6.3	More authority and initiative	3.98	0.86	3	19
A6.4	Spiritual rewards such as commendation and plaques	3.58	1.22	5	29
A6.5	Opportunity to work closer to the manager and different tasks	3.79	1.05	4	27
	Average	3.94	0.63		
$\bar{X}$ : Arithmetic mean, S.S: Standard deviation					

### Findings on Quality of Work Life of Employees

The statistical distribution of employees in the forest products industry based on the quality of work life is given in Table 3 with all sub-factors.

**Table 3.** Statistical Data on Sub-levels of Work Life Quality of Employees

A7	The most important human needs	$\bar{X}$	S.S	Group Number	General Number
A7.1	Approval and psychological needs	3.84	0.93	5	22
A7.2	Family formation and social needs	4.04	0.82	2	13
A7.3	Security need	3.92	0.92	4	19
A7.4	Food, clothing and physiological needs	4.06	0.85	1	12
A7.5	Recognition, loving and being loved, showing talents	4.02	0.94	3	15
	Average	3.98	0.59		
A8	Top reasons for dissatisfaction in job				
A8.1	Relationships with administrators and colleagues	3.63	1.11	3	27
A8.2	Wages and the work itself	3.56	1.23	4	28
A8.3	Lack of authority and responsibility	3.55	1.22	5	29
A8.4	Physical conditions of the work environment and working hours	3.77	1.04	1	23
A8.5	Competition conditions, lack of promotion and training opportunities	3.64	1.22	2	26
	Average	3.64	0.89		
A9	Expectations from the company				
A9.1	Job security and good working conditions	4.14	0.87	2	8
A9.2	Wages and benefits	4.24	0.80	1	4
A9.3	Teamwork and participation in decisions	3.89	1.00	5	20
A9.4	Recognition, appreciation, love and respect	4.08	0.84	4	10
A9.5	Opportunities to use talents, achieve success and progress	4.13	0.84	3	9
	Average	4.10	0.60		
A10	Reasons why people need a job				
A10.1	Producing and evaluating time	3.50	1.24	5	30
A10.2	Earning money and starting a family	4.31	0.82	1	2
A10.3	Gaining education and experience	3.97	0.94	3	16
A10.4	Serving the community and being a member of an organization	3.65	1.19	4	25
A10.5	Establishing relationships with people, gaining respect in society	4.03	0.92	2	14
	Average	3.90	0.67		
A11	Expectations in terms of professional development				
A11.1	Wage increase	4.31	0.790	1	1
A11.2	Promotion and appreciation	4.20	0.80	2	6
A11.3	Job security and greater empowerment	3.88	1.06	4	21
A11.4	Achievement and dignity, communication and friendship	4.06	0.92	3	11
A11.5	Good working conditions and the opportunity for working abroad	3.72	1.25	5	24
	Average	4.04	0.67		
A12	Improvability of work life quality				
A12.1	Improving physical conditions at work	4.23	0.77	2	5
A12.2	Reducing working time	4.17	0.86	3	7
A12.3	Paying more wages	4.31	0.75	1	3
A12.4	Giving more authority and responsibility	3.93	1.05	5	18
A12.5	Better communication with administrators	3.96	1.05	4	17
	Average	4.13	0.55		

$\bar{X}$ : Arithmetic mean, S.S: Standard deviation

Addressing basic human necessities, such as food, clothing, and physiological needs, achieved the forefront with an average score of 4.06. This factor pertains to the most crucial human needs and represents a relatively lower dimension of work life quality for employees. On the other hand, “Physical conditions of the work environment and working hours” obtained the lead position in the factor of greatest work dissatisfaction, garnering an average score of 3.77. Within the domain of expectations from the company, “Wage and social benefits” emerged with an average score of 4.24. In terms of the underlying motives for employment, “Earning money and starting a family” clinched the premier spot with an average score of 4.31. Moreover, within the framework of professional development, “Wage increase” secured the forefront with an average score of 4.31. Additionally, “Increasing wages” and “Earning more wages” jointly dominated the aspect of enhancing the quality of work life, both achieving an average score of 4.31 (Table 3).

### Independent Sample T-Test Results on Motivation Levels and Work Life Quality Levels of Employees by Gender

No statistically significant difference was observed in motivation levels and work life quality levels with respect to gender ( $P > 0.05$ ). These results are consistent with findings of Hitka *et al.* (2022). In a study by Gedik *et al.* (2018), women exhibited higher work motivation than men. In contrast, Aydin and Ucuncu (2016) reported higher average motivation among men in their research. Similarly, Turkoglu and Yurdakul (2017) discovered that men displayed higher job satisfaction and job performance averages compared to women. Akyuz and Yildirim (2015) indicated that women held a higher mean in intrinsic job satisfaction, whereas men held a higher mean in intrinsic satisfaction. In another study, Cok *et al.* (2017) concluded that men reported higher job satisfaction than women.

### Independent Sample T-Test Results on Motivation Levels and Work Life Quality Levels of Employees by Marital Status

A comprehensive presentation of the outcomes from the Independent Sample T-Test concerning the motivation levels and work life quality levels of employees based on their marital status can be found in Table 4.

**Table 4.** Independent Sample t-test Results on Motivation Levels and Work Life Quality Levels of Employees According to their Marital Status

Sub factors	Marital status	N	$\bar{X}$	S.S	t	P
A1	Married	752	4.02	0.65	-2.033	.042
	Single	423	4.10	0.55		
A2	Married	752	3.91	0.65	-2.548	.011
	Single	423	4.01	0.60		

“Factors affecting mood and motivation level” and “Motivation Tools” Sub-Factors Based on Marital Status Among Employees were statistically significant ( $P < 0.05$ ). Single employees expressed a greater emphasis on several motivational aspects compared to their married counterparts. Notably, they assigned higher importance to “Factors Affecting Mood and Motivation Level,” “Motivational Tools,” “Factors Valid for Promotion,” “Qualifications Relevant for Administrative Roles,” “Awards as Indicators of Success,” “Primary Job Dissatisfaction Factors,” “Expectations from the Employing Company,” and “Enhancement of Work-Life Quality” (Refer to Table 4).



Consistent with existing literature, the present findings align with previous studies. Turkoglu and Yurdakul (2017) reported higher levels of job satisfaction and job performance among single individuals. Likewise, Akyuz and Yildirim (2015) discovered elevated satisfaction levels in both internal and external job contexts for singles. Additionally, Cok *et al.* (2017) identified a gender-related discrepancy, showing that men exhibit greater job satisfaction compared to women. Thus, this study resonates with these established trends, reinforcing its alignment with the broader body of literature.

The present research demonstrates a significant link between marital status and motivational factors, highlighting distinct patterns in the perception of various motivational elements. The pronounced emphasis on specific motivational aspects among single employees underscores the need for tailored motivational approaches that consider individual life circumstances. These findings deepen our understanding of the complex interplay between personal factors and workplace motivation, contributing valuable insights to the field.

### One-Way ANOVA Results of Levels of Motivation and Work Life Quality of Employees by Age Groups

The results of one-way ANOVA regarding the motivation levels and work life quality levels of the employees by age groups are given in Table 5.

**Table 5.** One-way ANOVA of Motivation Levels and Work Life Quality Levels by Age Groups

Sub-Factors	Age	N	$\bar{X}$	S.S	P	Duncan
A7	18-25 (1)	285	3.9832	.55462	.001	(4) (1-2-3) (3-5)
	26-35 (2)	489	3.9840	.58505		
	36-40 (3)	222	4.0495	.62314		
	41-50 (4)	147	3.8136	.63404		
	51 and over (5)	32	4.2063	.45574		
	Total	1175	3.9809	.59249		
A9	18-25 (1)	285	4.1439	.60159	.042	(1-2-3-4) (1-2-3-5)
	26-35 (2)	489	4.0818	.59190		
	36-40 (3)	222	4.1450	.65027		
	41-50 (4)	147	3.9810	.49895		
	51 and over (5)	32	4.1938	.62110		
	Total	1175	4.0992	.59743		
A10	18-25 (1)	285	3.9032	.67419	.016	(1-2-4) (1-2-3-5)
	26-35 (2)	489	3.9002	.66445		
	36-40 (3)	222	3.9883	.65966		
	41-50 (4)	147	3.7429	.69044		
	51 and over (5)	32	3.9500	.61382		
	Total	1175	3.8992	.67027		
A11	18-25 (1)	285	4.1214	.64568	.025	(2-3-4-5) (1-2-3-5)
	26-35 (2)	489	4.0164	.68609		
	36-40 (3)	222	4.0685	.65771		
	41-50 (4)	147	3.9061	.63389		
	51 and over (5)	32	4.0250	.76327		
	Total	1175	4.0381	.66898		

As indicated in Table 5, the sub-factors, namely “The Most Important Human Needs,” “Expectations from the Company,” “The Underlying Reasons for Employment,” and “Anticipations in regards to Professional Development,” exhibited statistically significant disparities concerning the various age cohorts of employees ( $P < 0.05$ ).

Upon subjecting the resultant homogeneity groups arising from these disparities to analysis through the Duncan test, a Post-Hoc assessment method, distinct patterns emerge. Particularly, three groups materialize within the context of the “The Most Important Human Needs” subscale. Notably, the 41-50 age category demonstrates the lowest average, while those aged 51 and above exhibit the highest average. Furthermore, while individuals within the 41-50 age group form a discrete cluster, those aged 18-25, 26-35, and 36-40 encompass a single group. Similarly, individuals aged 36-40 and those above 51 years old form another cohesive group. Importantly, the 36-40 age cohort overlaps within both of these groups.

The “Expectations from the Company” subscale reveals the formation of two distinct groups. Notably, individuals aged 51 years and above exhibit a higher average. Conversely, those falling within the age brackets of 18-25, 26-35, 36-40, and 41-50 comprise one cohesive group. Remarkably, individuals aged 18-25, 26-35, and 36-40 are encompassed within both of these groups. Likewise, within the “Reasons for Workplace Engagement” sub-scale, a dichotomy emerges, resulting in the constitution of two groups. Individuals aged between 36 and 40 exhibit a higher average compared to other age categories. Interestingly, those aged 18-25, 26-35, and 41-50 are amalgamated into a single group, while those aged 18-25 and 26-35 are simultaneously represented in both groups. Furthermore, the “Aspirations for Professional Development” subscale also yields two distinct groups. Intriguingly, those aged 18-25 display a superior average. Simultaneously, individuals aged 26-35, 36-40, 41-50, and 51 and above constitute a single group, while those aged 26-35 and 36-40 are concurrently included in both groups.

The work of Gedik *et al.* (2018) highlights that individuals aged between 31 and 40 exhibit elevated levels of work motivation. Correspondingly, the research conducted by Turkoglu and Yurdakul (2017) revealed that those aged 46 to 45 tend to experience greater job satisfaction and demonstrate improved job performance. Furthermore, Akyuz *et al.* (2011) reported that individuals aged 45 and above express contentment with their colleagues and supervisors. Similarly, Akyuz and Yildirim (2015) established that individuals above the age of 45 manifest heightened levels of both internal and external job satisfaction. Likewise, the study by Cok *et al.* (2017) underscored that individuals aged 55 and above tend to exhibit elevated job satisfaction levels. As such, the findings of the current study are harmonious with the existing literature. In conclusion, motivation, and quality of work life increase with age in certain age groups, while they decrease in other age groups. Similar results were also found by Hitka *et al.* (2022). This is because men in the mentioned age group recognize their role as the primary providers for their families, and as a result, they exert significant effort to fulfill their financial obligations and needs.

### **One-Way ANOVA Results of Levels of Motivation and Work Life Quality of Employees by Educational Status**

The results of one-way ANOVA regarding the motivation levels and work life quality levels of the employees according to their educational status are given in Table 6.

Table 6 indicates that the sub factors of “Factors affecting mood and motivation level”, “Motivational tools”, “Factors determining job satisfaction”, “Factors valid for promotion”, “Qualifications thought to be in a manager”, “Awards factor in return success

in terms of the educational status of the employees”, “The most important human needs”, “The reasons for the most dissatisfaction with the job”, “The reasons why people need to work at a job”, and “Expectations in terms of professional development” showed a statistically difference ( $P < 0.05$ ).

**Table 6.** One-way ANOVA of Motivation Levels and Work Life Quality Levels by Educational Level

Sub factors	Education level	N	$\bar{X}$	S.S	P	Duncan
A1	Elementary school (1)	146	3.8959	.79001	.000	(1-2) (2-3) (3-4) (4-5)
	Middle school (2)	213	3.9962	.63512		
	High school (3)	526	4.0403	.57069		
	Vocational school (4)	133	4.1474	.59640		
	Bachelor (5)	157	4.2535	.52447		
	Total	1175	4.0550	.61824		
A2	Elementary school (1)	146	3.8110	.76286	.000	(1-2-3) (2-3-4) (5)
	Middle school (2)	213	3.8995	.63443		
	High school (3)	526	3.9092	.62122		
	Vocational school (4)	133	4.0316	.59332		
	Bachelor (5)	157	4.2229	.53922		
	Total	1175	3.9510	.64006		
A3	Elementary school (1)	146	4.0466	.60300	.000	(1-2-3-4) (5)
	Middle school (2)	213	4.0019	.60251		
	High school (3)	526	4.0309	.54644		
	Vocational school (4)	133	4.0977	.58445		
	Bachelor (5)	157	4.2522	.49879		
	Total	1175	4.0647	.56705		
A4	Elementary school (1)	146	3.9740	.79108	.045	(1-2-3-4) (3-5)
	Middle school (2)	213	3.9577	.60680		
	High school (3)	526	4.0167	.56463		
	Vocational school (4)	133	3.9519	.56844		
	Bachelor (5)	157	4.1299	.50376		
	Total	1175	4.0085	.59949		
A5	Elementary school (1)	146	4.1301	.61682	.011	(1-2-3-4) (1-4-5)
	Middle school (2)	213	4.0291	.62382		
	High school (3)	526	4.0422	.53734		
	Vocational school (4)	133	4.1368	.58068		
	Bachelor (5)	157	4.1949	.48089		
	Total	1175	4.0819	.56442		
A6	Elementary school (1)	146	3.9589	.59186	.005	(1-2-3-4) (5)
	Middle school (2)	213	3.8723	.65749		
	High school (3)	526	3.9340	.62403		
	Vocational school (4)	133	3.8466	.63384		
	Bachelor (5)	157	4.0904	.60402		
	Total	1175	3.9369	.62771		
A7	Elementary school (1)	146	4.0877	.69042	.000	(2-3-4) (1-2-4) (1-5)
	Middle school (2)	213	3.9690	.57394		
	High school (3)	526	3.9133	.59209		
	Vocational school (4)	133	3.9774	.53973		
	Bachelor (5)	157	4.1274	.52631		
	Total	1175	3.9809	.59249		
A8	Elementary school (1)	146	3.8479	.79144	.017	(2-3-4-5) (1-5)
	Middle school (2)	213	3.5531	.91572		
	High school (3)	526	3.5932	.88584		

	Vocational school (4)	133	3.6466	.86195		
	Bachelor (5)	157	3.6866	.92467		
	Total	1175	3.6361	.88593		
A10	Elementary school (1)	146	4.0219	.64802	.009	(2-3-4) (3-4-5) (1-4-5)
	Middle school (2)	213	3.8188	.70979		
	High school (3)	526	3.8684	.66570		
	Vocational school (4)	133	3.8827	.67516		
	Bachelor (5)	157	4.0115	.62439		
	Total	1175	3.8992	.67027		
A11	Elementary school (1)	146	4.1260	.63983	.020	(2-3-4) (1-3-4-5)
	Middle school (2)	213	3.9531	.65189		
	High school (3)	526	4.0099	.67402		
	Vocational school (4)	133	4.0526	.65731		
	Bachelor (5)	157	4.1541	.69425		
	Total	1175	4.0381	.66898		

Upon conducting an analysis of the homogeneity groups formed due to these observed differences, employing the Duncan test as a prominent Post-Hoc assessment, notable trends emerged across various sub-factors:

1. Within the “Factors Affecting Mood and Motivation Level” subscale, a total of four distinct groups were discerned. Notably, graduates with bachelor’s degrees command the highest average. Notably, those holding elementary school and middle school degrees, secondary school and high school qualifications, high school and vocational school certificates, and vocational school and bachelor’s degrees find themselves within relatively similar groupings.
2. The “Motivation Tools” subscale unveiled three discernible clusters. Here, graduates holding bachelor’s degrees achieved the highest average and stand as an independent group.
3. For the “Factors Determining Job Satisfaction” subscale, a dual-group configuration arose. Graduates holding bachelor's degrees obtained the highest average, consequently forming a distinct grouping.
4. In the context of the “Factors Valid for Promotion” subscale, a dichotomous grouping pattern became evident. Graduates with bachelor’s degrees exhibited the highest average, while high school graduates feature in both clusters.
5. Within the “Qualifications Considered for Managerial Roles” subscale, a dual-group distribution surfaced. Graduates with bachelor’s degrees recorded the highest average, whereas vocational school graduates are represented within both groups.
6. The “Awards for Success” subscale brought forth a two-group structure. Here, graduates with bachelor’s degrees attained the highest average, standing as a separate entity.
7. The “Most Important Human Needs” subscale generated three distinct groupings, once again showcasing graduates with bachelor's degrees registering the highest average. This extends to encompass elementary school, middle school, and vocational school graduates within both clusters.
8. Within the “Reasons for Job Dissatisfaction” subscale, a binary grouping pattern emerges, with elementary school graduates displaying the highest average. Notably, graduates with bachelor's degrees are encompassed within both groupings.
9. In the “Reasons Why People Need to Work” subscale, a three-fold clustering unfolds, where elementary school graduates record the highest average. High school graduates find representation in both clusters, while vocational school

- graduates span all three groups.
10. In the “Expectations Regarding Professional Development” subscale, a dual-group pattern emerges. Graduates with bachelor's degrees achieve the highest average, with high school graduates and vocational school graduates also finding representation within both clusters.

In summation, a comprehensive examination of these homogeneity groups unveiled varied and significant associations across diverse sub-factors. Notably, graduates with bachelor's degrees often had the highest averages and distinct groupings, signifying their distinctive perceptions.

In the examination conducted by Gedik *et al.* (2018), it was determined that vocational school graduates exhibit elevated levels of work motivation in comparison to their counterparts. Similarly, the research by Turkoglu and Yurdakul (2017) established that individuals with graduate school degrees report enhanced job satisfaction and superior job performance as compared to other graduates. Additionally, the investigation by Akyuz and Yildirim (2015) revealed that graduates with bachelor's degrees manifest heightened levels of job satisfaction and external contentment. Conversely, the study undertaken by Cok *et al.* (2017) unearthed that individuals holding elementary school degrees experience heightened job satisfaction.

### **One-Way ANOVA Results of Levels of Motivation and Work Life Quality of Employees According to Their Positions in the Company**

The results of one-way ANOVA regarding the motivation levels and work life quality levels of the employees according to their positions in the enterprise are given in Table 7. The sub-factors of “Factors affecting mood and motivation level”, “Motivational tools”, “Factors determining job satisfaction”, “Most dissatisfaction with the job”, and “Reasons people need to work in a job” in terms of their positions in the company showed a statistically significant difference ( $P < 0.05$ ).

Upon subjecting these differences to analysis using the Duncan test, distinct patterns emerged within various sub-factors:

1. Within the “Factors Affecting Mood and Motivation Level” subscale, a bifurcation led to the formation of two groups. Notably, those employed as engineers attained the highest average, while technicians, experts, office workers, and other employees featured within both clusters.
2. The “Motivation Tools” subscale similarly revealed two groupings. Engineers demonstrated the highest average, and those working as technicians were encompassed within both clusters.
3. In terms of the “Factors Determining Job Satisfaction” subscale, a single group configuration emerges, with engineers exhibiting the highest average.
4. Within the context of the “Reasons for Job Dissatisfaction” sub-scale, a solitary group formation transpired, where employees collectively possessed the highest average.
5. The “Reasons Why People Need to Work in a Job” subscale unveiled a dual-group distribution, with engineers presenting the highest average. Employees, technicians, experts, and other personnel featured within both clusters.

In summary, the application of the Duncan test reveals distinctive groupings across these sub-factors. Engineers frequently occupy the group with the highest averages,

suggesting certain trends in how these factors relate to their roles.

In the study of Gedik *et al.* (2018), those who are operating chiefs / production chiefs have higher work motivation, whereas in the study of Akyuz and Yildirim (2015), those who work in administrative staff have higher occupational and external job satisfaction. On the other hand, Cok *et al.* (2017) found that those who work as business managers have higher job satisfaction.

Gedik *et al.* (2018) revealed that individuals in roles as operating chiefs or production chiefs exhibit elevated levels of work motivation. Meanwhile, Akyuz and Yildirim (2015) demonstrated that those employed in administrative staff positions report heightened levels of occupational and external job satisfaction. Furthermore, Cok *et al.* (2017) uncovered a notable trend, indicating that individuals holding business manager positions tend to experience greater job satisfaction.

**Table 7.** One-way ANOVA of Motivation Levels and Work Life Quality Levels According to Position in the Company

Sub Factors	Position in Company	N	$\bar{X}$	S.S	P	Duncan
A1	Employee (1)	746	4.0080	.64276	.002	(1-2-3-5-6) (2-3-4-5-6)
	Technician (2)	97	4.1443	.55358		
	Expert (3)	56	4.0821	.67987		
	Engineer (4)	132	4.2409	.50144		
	Office worker (5)	96	4.0562	.54111		
	Other (6)	48	4.0583	.62427		
	Total	1175	4.0550	.61824		
A2	Employee (1)	746	3.8880	.67741	.000	(1-2-5) (2-3-4-6)
	Technician (2)	97	3.9897	.61602		
	Expert (3)	56	4.1036	.49137		
	Engineer (4)	132	4.1803	.52297		
	Office worker (5)	96	3.8938	.48380		
	Other (6)	48	4.1583	.61188		
	Total	1175	3.9510	.64006		
A3	Employee (1)	746	4.0322	.57590	.008	(1-2-3-4-5-6)
	Technician (2)	97	4.0351	.52758		
	Expert (3)	56	4.1321	.63621		
	Engineer (4)	132	4.2136	.47160		
	Office worker (5)	96	4.0354	.54367		
	Other (6)	48	4.2000	.63915		
	Total	1175	4.0647	.56705		
A8	Employee (1)	746	3.6842	.87051	.024	(1-2-3-4-5-6)
	Technician (2)	97	3.6309	.80278		
	Expert (3)	56	3.4250	.98944		
	Engineer (4)	132	3.6561	.91745		
	Office worker (5)	96	3.3917	.87439		
	Other (6)	48	3.5792	1.01163		
	Total	1175	3.6361	.88593		
A10	Employee (1)	746	3.9137	.67964	.046	(1-2-3-5-6) (1-2-3-4-6)
	Technician (2)	97	3.8763	.62413		
	Expert (3)	56	3.8036	.80498		
	Engineer (4)	132	3.9924	.60097		
	Office worker (5)	96	3.7187	.62481		
	Other (6)	48	3.9375	.66545		
	Total	1175	3.8992	.67027		

### One-Way ANOVA Results of Levels of Motivation and Work Life Quality of Employees by Sectors

The results of one-way ANOVA regarding the motivation levels and work life quality levels of the employees according to the fields are given Table 8.

**Table 8.** One-way ANOVA of Motivation Levels and Work Life Quality Levels According to Sectors

Sub-Factors	Field	N	$\bar{X}$	S.S	P	Duncan
A1	Furniture (1)	576	4.0663	.68472	.014	(1-3-4) (1-2-4) (1-2-5)
	Panel (2)	403	4.0938	.50847		
	Paper (3)	100	3.8840	.67640		
	NWFP (4)	61	3.9279	.49266		
	Service (5)	35	4.1314	.55718		
	Total	1175	4.0550	.61824		
A5	Furniture (1)	576	4.1326	.61555	.002	(4) (1-2-3-5)
	Panel (2)	403	4.0352	.45934		
	Paper (3)	100	4.1060	.54714		
	NWFP (4)	61	3.8623	.49604		
	Service (5)	35	4.0971	.79613		
	Total	1175	4.0819	.56442		
A6	Furniture (1)	576	3.9714	.66565	.000	(4) (1-2-5) (1-3-5)
	Panel (2)	403	3.8868	.59291		
	Paper (3)	100	4.1080	.49598		
	NWFP (4)	61	3.5934	.57500		
	Service (5)	35	4.0571	.54140		
	Total	1175	3.9369	.62771		
A7	Furniture (1)	576	4.0615	.61701	.000	(2-4) (1-3-5)
	Panel (2)	403	3.8715	.55418		
	Paper (3)	100	4.0540	.47978		
	NWFP (4)	61	3.7607	.58403		
	Service (5)	35	4.0914	.64232		
	Total	1175	3.9809	.59249		
A8	Furniture (1)	576	3.8972	.77858	.000	(4) (2) (1-3-5)
	Panel (2)	403	3.3196	.90190		
	Paper (3)	100	3.8780	.70947		
	NWFP (4)	61	2.7311	.82048		
	Service (5)	35	3.8686	.73395		
	Total	1175	3.6361	.88593		
A9	Furniture (1)	576	4.1639	.60590	.004	(1-2-3-4-5)
	Panel (2)	403	4.0328	.54171		
	Paper (3)	100	4.0240	.67825		
	NWFP (4)	61	4.0098	.56854		
	Service (5)	35	4.1714	.75948		
	Total	1175	4.0992	.59743		
A10	Furniture (1)	576	4.0080	.64896	.000	(4) (2-5) (1-5) (1-3)
	Panel (2)	403	3.7464	.68029		
	Paper (3)	100	4.1900	.50881		
	NWFP (4)	61	3.4262	.53226		
	Service (5)	35	3.8629	.73207		
	Total	1175	3.8992	.67027		
A11	Furniture (1)	576	4.1396	.63604	.000	(4) (2) (1-3-5)
	Panel (2)	403	3.9127	.70147		
	Paper (3)	100	4.2260	.49536		

	NWFP (4)	61	3.5246	.58784		
	Service (5)	35	4.1714	.71643		
	Total	1175	4.0381	.66898		
A12	Furniture (1)	576	4.1729	.58202	.000	(4) (1-2-3-5)
	Panel (2)	403	4.1052	.50337		
	Paper (3)	100	4.1320	.49337		
	NWFP (4)	61	3.8426	.50612		
	Service (5)	35	4.0343	.62776		
	Total	1175	4.1249	.55078		

Table 8 shows “Factors affecting mood and motivation level of employees”, “Qualifications thought to be in an administrator”, “awards factor in return success”, “The most important human needs”, “The reasons for dissatisfaction with the job”, and “The most important reasons for dissatisfaction with the job”. The sub-factors of “expectations from the company”, “reasons people need to work at a job”, “expectations in terms of professional development”, “improvability of work life quality” show a statistically significant difference ( $P < 0.05$ ).

Upon subjecting these differences to analysis using the Duncan test, distinctive patterns emerged across various sub-factors:

1. In the “Factors Affecting Mood and Motivation Level” subscale, three distinct groups came to the forefront. Notably, individuals working in the service field achieved the highest average. Furthermore, employees engaged in the furniture, panel, and NWFP fields were found in both of these groupings.
2. Within the “Qualifications Considered for Managerial Roles” subscale, a dual-group configuration took shape. Those in the NWFP field reported the lowest average, whereas those in the furniture field secured the highest average.
3. The “Awards for Success” subscale revealed a tripartite distribution, with the NWFP field registering the lowest average and the paper field attaining the highest average. Additionally, employees in the service field find representation in both groups.
4. The “Most Important Human Needs” subscale presents a two-group formation, where individuals in the service field exhibited the highest average.
5. In the context of the “Reasons for Job Dissatisfaction” subscale, a tri-group pattern unfolded. The NWFP field experienced the lowest average, while the furniture field recorded the highest average. Notably, the NWFP and panel industry personnel were part of a shared group.
6. The “Expectations from the Company” subscale generated a single group configuration, where individuals in the service field boasted the highest average.
7. The “Reasons Why People Need to Work in a Job” subscale evoked a four-fold distribution. The NWFP field showcased the lowest average, whereas the paper field demonstrated the highest average. Those in the furniture field and individuals working in the service field found themselves in both of these groups.
8. Within the “Expectations Regarding Professional Development” subscale, a three-group structure emerged. The NWFP field exhibited the lowest average, while the paper field commanded the highest average. Importantly, the NWFP and panel industry workers formed a distinct grouping.



9. The sub-scale “Improvement in Work Life Quality” yielded a dual-group pattern, with the NWFP field recording the lowest average and those in the furniture field attaining the highest average.

In summary, the application of the Duncan test underscores significant groupings within these sub-factors. Notably, employees in the service field and individuals working within specific industries often exhibited distinct patterns of perceptions and averages.

### **Level of Influence of Sub-Factors of Motivation Levels by Sub-Factors of Quality of Work Life**

The impact of work-life sub-factors on the levels of motivation sub-factors was assessed through multiple regression analyses. Employing the stepwise method, multiple regression equations were derived by incorporating six work-life quality sub-factors (independent variables) to predict the six motivation level sub-factors (dependent variables).

In the multiple regression analysis, the stepwise method was employed to select the most statistically significant variables, which were subsequently integrated into the model. Among the multiple regression equations that exhibited significance for each dependent variable, only the  $R^2$  (coefficient of determination) value with the highest magnitude was reported in the study.

A general equation for multiple regression analysis is shown below.

$$Y = \alpha + \beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \dots + \beta_k * X_k + \varepsilon_i \quad (1)$$

In this model,  $Y$  is a dependent (result) variable and is assumed to have a certain error;  $X$  is an independent (cause) variable and is assumed to be measured without error;  $\alpha$  is a constant and is the value of  $Y$  when  $X=0$ ;  $\beta$  is the regression coefficient and expresses the amount of change that occurs in  $Y$  in response to a 1 unit change in  $X$ ; and  $\varepsilon$  is a random error term that is assumed to have a normal distribution with a mean of zero variance ( $\sigma^2$ ). This assumption is required for importance checks of coefficients, not parameter estimates.

The dependent (A1, A2, A3, A4, A5, A6) and independent (A7, A8, A9, A10, A11, A12) variables used in multiple regression equations are given below.

A1; Factors affecting mood and motivation level

A2; Motivation tools

A3; Factors determining job satisfaction

A4; Factors applicable promotion

A5; Qualities considered to be in an administrator

A6; Awards in return success

A7; Most important human needs

A8; The most common causes of dissatisfaction on job

A9; Expectations from the company they work with

A10; Reasons why people need a job

A11; Expectations in terms of professional development

A12; Expression the reasons why people need to work in a job.

The equations and coefficients obtained for the 6 dependent variables as a result of the multiple regression analysis performed separately are given below, respectively.

$$A1 = 1.848 + 0.285 * A7 + 0.262 * A9 \quad (2)$$

$$A2 = 1.661 + 0.240*A9 + 0.150*A7 + 0.096*A12 + 0.078*A11 \quad (3)$$

$$A3 = 1.512 + 0.281*A7 + 0.193*A9 + 0.101*A10 + 0.060*A12 \quad (4)$$

$$A4 = 2.022 + 0.229*A7 + 0.233*A9 + 0.080*A10 - 0.053*A8 \quad (5)$$

$$A5 = 1.938 + 0.207*A7 + 0.181*A9 + 0.084*A11 + 0.060*A10 \quad (6)$$

$$A6 = 1.040 + 0.209*A11 + 0.209*A7 + 0.118*A8 + 0.114*A10 + 0.084*A12 \quad (7)$$

The respective multiple determination coefficients ( $R^2$ ) for each equation were as follows: 0.202, 0.172, 0.285, 0.168, 0.207, and 0.358. The coefficient of determination signifies the extent to which the independent variables account for the variance in the dependent variable. The obtained results have demonstrated conformity with the literature, and the hypotheses that were stated earlier are accepted. Quality of work life and motivation are two concepts that should not be considered separately; a positive improvement in one also positively influences the other.

## CONCLUSIONS

1. Wages and social rights emerge as the foremost factors influencing motivation levels. Both in terms of motivating individuals and enhancing work life, wages hold a primary position. The significance of wages is underscored as a pivotal factor impacting motivation and elevating work life satisfaction.
2. Employee preferences, when selecting a company, are shaped by various considerations, starting with wage conditions, followed by insurance coverage, social opportunities, health and safety provisions, job security, management approach, and finally, developmental prospects.
3. Within specific occupational fields, distinct patterns arise: employees in the service sector exhibit the highest average across five sub-factors, those in the paper industry lead in three sub-factors, the panel industry excels in one sub-factor, and the furniture industry tops three sub-factors.
4. In relation to industry variables, significant differences are apparent among sub-factors such as “Factors Affecting Mood and Motivation Level,” “Qualifications Considered for Managerial Roles,” “Awards for Success,” “Most Essential Human Needs,” “Reasons for Job Dissatisfaction,” “Expectations from the Company,” “Reasons Why People Need to Work in a Job,” “Expectations Regarding Professional Development,” and “Improvement of Work Life Quality.”
5. Multiple regression equations yield the following coefficients of determination ( $R^2$ ) for dependent variables A1, A2, A3, A4, A5, and A6: 0.202, 0.172, 0.285, 0.168, 0.207, and 0.358, respectively. These coefficients quantify the proportion of variance in the dependent variables explained by the independent variables.

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