

The relationship between job satisfaction, pay satisfaction, and intrinsic motivation among faculty members of Setif University. \_\_\_\_\_

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ملخص

لقد بحثت الورقة الحالية العلاقة المعقدة بين كل من الرضا الوظيفي والرضا عن التعويضات والحفز الذاتي لأساتذة التعليم العالي في جامعة سطيف بالجزائر. واستخدمت الدراسة ثلاثة استبيانات وزعتها على 299 أستاذ، تمثلت في مقياس خيارات العمل لقياس الحفز الذاتي، واستبيان مينوسوتا للرضا لقياس الرضا الوظيفي، واستبيان الرضا عن التعويضات لقياس الرضا عن التعويضات. ولتحليل العلاقة بين المتغيرات، استخدمت الدراسة تحليل الارتباط وتوصلت إلى وجود بعض العلاقات، خاصة بين الرضا عن التعويضات والرضا الوظيفي. يمكن الاستفادة من هذه النتائج في إعداد استراتيجيات تحسين الرضا الوظيفي والرضا عن التعويضات وكذا عملية حفز الأساتذة في الجامعة في الدول النامية.

**Abstract**

The current paper has investigated the complex relationships between job satisfaction, pay satisfaction, and intrinsic motivation, among academic faculty members of Setif University, Algeria. The paper has used three questionnaires administered to 299 faculty members. Intrinsic motivation was determined by using a part of work preference inventory scale (Amabile, et al., 1994). Minnesota satisfaction questionnaire was used to measure job satisfaction levels (Weiss et al., 1967). Pay satisfaction was taken from the pay satisfaction questionnaire (Henneman & Schwab, 1985). Correlation and regression analysis procedures were used to analyze the relationships between variables. The results has showed some significant relationships, specifically between pay satisfaction and job

Satisfaction. Findings may be used to implement strategies to enhancing motivation, job satisfaction, and pay satisfaction, of faculty members in developing country universities.

## **Introduction**

In workplace, “most adults spend much of their waking life at work” (Blackett & Trebilcock, 2015, p.263), and exactly they “spend 60% of their waking hours at work” (Bonehill, 2010, p.160). As such, a time spent should be enjoyable and funny, and their work should be source of happiness. Successful organizations try to give value, meaning and a sense of happiness to work, because they know happy employees have more energy and activity, so happy employees are productive ones (Syptak, Marsland, & Ulmer, 1999), and organizations with more satisfied employees tend to be more effective (Robbins & Judge, 2007), because they work harder, better, and do their best for the organization.

Happiness is generally synonymous with job satisfaction in organizational context (Avent, 1975). Satisfaction is a prerequisite for employee motivation to increase productivity and enhance performance (Hasham, 2004). Being motivated to be productive in the workplace, often leads to job satisfaction. Getting motivated employees, is a key for achieving high productivity and job satisfaction. In fact motivation and job satisfaction are two important factors linked to each other, resulting from the same theories.

Motivation has been studied for decades and continues to be a subject of big interest, and debates of theories. Taylor, (1911), the father of scientific management, studied work and motivation in the early years of the 20<sup>th</sup> century, one of the pioneer approaches of work motivation. He believed that workers were interested only in money, and to increase their production, organization should use salaries and wages to motivate them. More than three decades of the works of Taylor, (1911) was lunched, Mayo (1945) conducted a series of experiments in Western Electric Hawthorn, to examine the effect of lighting and other conditions of work on productivity. Result has showed that the production increased, not because of the environment, but also due to the feeling of recognition and appreciation, and the communication between employees during the experiments. Which has lead to internal satisfaction, and has increased the productivity? This care to employees, not intended, increased employee motivation and therefore productivity.

The conclusion was that people do not work for only earning money, but they also work for job satisfaction. Thanks to this care, Mayo, the discoverer of human relations management, was the first person who has highlighted the importance of job satisfaction (Winfrey, 2009). In short, according to Taylor (1911), people were motivated, only by extrinsic rewards, whereas, according to Mayo, they were motivated by more than extrinsic rewards, they were also motivated by the intrinsic rewards (Vash, 2008).

Based on the above mentioned review, motivation can be both intrinsic and extrinsic. Intrinsic and extrinsic types of motivation have been widely studied, since the early 1970's, with the beginning of Deci's publications (Deci, 1971, 1975). Intrinsic motivation has emerged from an employee's enjoyment or interest in the work. People who work in creative field (e.g. Research scientists) tend to be more intrinsically motivated towards their work, than the general population (Amabile, Hill, Hennessey, & Tighe, 1994). The employee received pay for work done is an essential key in job satisfaction. It is a factor in attracting, motivating, and keeping employees. Pay satisfaction is one component of job satisfaction. It is the most important item of job satisfaction, and the most studied one. Pay satisfaction has been long viewed as one-item of job satisfaction, until Heneman & Schwab (1985) argued that it is a multidimensional construct. Pay satisfaction is a narrower construct than job satisfaction (Terpstra & Honoree, 2004), and it should be viewed as an independent variable from job satisfaction.

Lack of motivation in the workplace can lead to lower productivity (Shepperd, 1993), and absence of job satisfaction can reduce organizational commitment and lead to quit the work (Alexander, Liechtenstein, & Hellmann, 1998; Moser, 1997). Pay satisfaction has long been of primary concern to both employees as well as employers (Baeber & Betz, 2000; Singh & Loncar, 2010; Williams, McDaniel, & Nguyen, 2006). The importance of pay for employees is derived from the fact that the pay is recognized as an

outcome of primary importance to employees, and as a tool for satisfying their needs. In addition to that, the dissatisfaction with pay may lead to a decrease in job satisfaction and a decrease in motivation (Cable & Judge, 1994). For organizations, the pay satisfaction can be more controlled (Williams, et al., 2006).

Intrinsic motivation, job satisfaction and pay satisfaction have received more study in different context, whether in exploring their levels, or in investigating their relationships to each other, or to other personnel and organizational variables. In the context of higher education, the above variables have not been studied enough. In fact, the analysis of complex relationships between more than two variables is generally avoided. Although, till now there are few studies that have examined the correlation between these variables. No one has investigated the association between intrinsic motivation, job satisfaction, and pay satisfaction in the field of higher education, and especially in developing countries. Only one single empirical evidence, has explored the complex relationships between motivation, pay satisfaction and job satisfaction at the retailer that uses a pay for performance plan for front-line employees (Stringer, Didham & Theivananthampillai, 2011).

The research on job satisfaction has focused on industrial context and neglected employees in higher education (Oshagbemi & Hickson, 2003). However interest data on job satisfaction is increasing in both academic and

policy circles (Brown, Charlwood, & Spencer, 2012). Pay satisfaction and intrinsic motivation, which were less studied than job satisfaction, need wider study. In addition to this, most studies in the area of motivation and satisfaction have been conducted in USA and Europe. The institution effectiveness depends on their employees (Kusku, 2003). Recently research have paid more attention to academics in higher education, due to the increase of consciousness that high education institutions depends on labor-intensive and budgets directed to individuals. To enrich the field of academic research, the current study has investigated the complex relationships between intrinsic motivation, job satisfaction and pay satisfaction, among faculty members in Setif University, Algeria.

### **Literature review Job satisfaction**

“Job satisfaction is the degree to which individuals feel positively or negatively about a job” (Schermerhorn, 2011, p.438). Job satisfaction is the most heavily investigated work attitude, as well as the popular topic study in the organizational research (Judge & Church, 2000; Lu, Barriball, Zhang & While, 2012; Judge, Parker, Colbert, Heller & Ilies, 2005). It is a salient attitude that permeate cognitive, affective and behavioral aspects of people, whereas in their workplaces or in their lives (Judge & Klinger, 2008).

### **Pay satisfaction**

Pay satisfaction is “the amount of positive or negative feelings that individuals have toward their pay” (Miceli & Lane, 1991). Pay satisfaction is an important factor in human resources management. Research on pay satisfaction is important because pay is a significant organizational expense and is a valued individual outcome (Ivanova, 2013).

### **Intrinsic motivation**

Intrinsic motivation refers to “doing an activity for its own sake” (Ryan & Deci, 2007, p.2). It refers to “doing something because it is inherently interesting, or enjoyable” (Ryan & Deci, 2000, p.55). As defined, intrinsic motivation exists within individuals, and is driven by interest or enjoyment in the task itself, rather than external pressures or desire for rewards. There is other definitions of intrinsic motivation. While many concepts proposed by previous theorists, like enjoyment, interest, satisfaction of curiosity, self-expression, and challenge in work. The intrinsic motivation is a powerful driver of performance (Grant & Berry, 2011). Individual’s intrinsic motivation has strong impact on job performance than extrinsic motivation, and individual’s intrinsic motivation can increase their extrinsic motivation (Huang, 2015).

### **The relationship between intrinsic motivation and job satisfaction**

Job satisfaction is linked to employee motivation (Landy, 1989; Ostroff, 1992). Researchers have found that motivated employees were satisfied with

their jobs (Ahmed & Islam, 2011). When they were both extrinsically and intrinsically motivated to do their jobs, they were more satisfied (Roos & Eeden, 2008). Employees who were intrinsically motivated, derive their satisfaction from the value of their jobs. The presence of intrinsic motivating factors had positive impact on employees job satisfaction (Goetz, Campbell, Broge, Börfer, Brodowski & Szecsenyi, 2012).

The results of studies have demonstrated significant relationship between intrinsic motivation and job satisfaction (Cho & Perry, 2012; Raza, Akhtar, Husnain, & Akhtar, 2015; Shah, Rehman, Akhtar, Zafar & Riaz, 2012). The results also have depicted that relationship was positive. The high level of Intrinsic motivation resulted in high level of job satisfaction (Karatepe & Tekinkus, 2006; Edrak, Yin-Fah, Gharlegghi, & Seng, 2013, Stringer, et al., 2011). Intrinsic motivation can enhance job satisfaction (Masvaure, Ruggunan, & Maharaj, 2014) because intrinsic motivation is the antecedent and the predictive of job satisfaction (Cheraghalizadeh, 2014; Oudejans, 2007). Based on the previous studies findings, the following hypothesis can be suggested:

H1: intrinsic motivation has a positive effect on job satisfaction.

### **The relationship between intrinsic motivation and pay satisfaction**

In fact, the relationship between intrinsic motivation and pay satisfaction has been little studied. The few studies, which have investigated this



relationship have showed that intrinsic motivation was positively associated with pay satisfaction (Stringer, et al., 2011), and intrinsic factors can enhance pay satisfaction (Masvaure, et al., 2014). So the following hypothesis can be expected:

H2: intrinsic motivation has a positive effect on pay satisfaction.

### **The relationship between pay satisfaction and job satisfaction**

Research evidence has demonstrated in general a strong positive influence of pay satisfaction on job satisfaction, and it can be obviously observed in every field of life (Sweet, Meyer, Nelson & Moberg, 2011; Cable & Judge, 1994; Thatcher, Liu, Stepina, Goodman, & Treadway, 2006; Ellickson, & Logsdon, 2001). Furthermore, it has been proven that salary satisfaction was a predictor of job satisfaction (Chaudhry, Sabir, Rafi, & Kalyar, 2011; Sharma & Bajpai, 2011). The findings also found that the workers who have knowledge were satisfied with their pays had higher job satisfaction (Stringer, et al., 2011). Thus, the following hypothesis may be formulated:

H1: pay satisfaction has a positive effect on job satisfaction.

### **Research method**

The aim of the current study was to test three hypotheses that reflect the complex relationships between intrinsic motivation, pay satisfaction, and job satisfaction, among faculty members of higher education. The study was conducted in the University of Setif, Algeria.

## Participants

The population was considered of all permanent academics. 960 questionnaires were distributed to academics who were present, and with whom we can have a direct relation. 290 questionnaires were returned and were valid for analysis, with response rate of 32.60%. SPSS version 20.0 was used for data analysis. The Table below illustrated the demographic characteristics of the population.

Table 1. Demographic characteristics of the population

Demographic factors	N	p
Gender		
Male	168	56.4
Female	130	43.6
Age		
≤ 35	172	57.7
36-45	62	20.8
> 45	64	21.5
Job tenure		
≤ 5	145	48.7
6-10	76	25.5
> 10	77	25.8
Education level		
magister	231	77.5
phd	67	22.5
Salary		
≤ 50000 AD	232	77.8
> 50000 ≤ 70000 AD	59	19.8
> 70000	7	2.3

Note . AD :Algerian Dinar. N=298 (Number of population)

## Procedure

The study used the cross-sectional survey design, which is a « usefulness and practicality of this methodology in field studies when compared to other methodologies” (Nair, 2007, p.74). Data can be collected quickly using cross-sectional research method (Gaebelein & Gleason, 2008). Furthermore, a cross-sectional self report methodology help to provide information, about people’s perceptions, about their jobs, and the inter-correlation between these perceptions (Spector, 1994).

A pilot study was undertaken on 19 participants to assess the utility and the perceived effectiveness of the instruments. The pilot study has determined whether the items were yielding the kind of information that was needed, through feedback on academics understanding and perception of the survey items. Permission to conduct the study was given from the responsible of the university. The questionnaires were administered to participants by the researcher herself, with the voluntary help of some academics who are teaching in different faculties of the university. Face to face method has been used to gather data from participants, by distributing questionnaires printed on papers, and delivered to participants face to face, in order to recover the largest possible number of questionnaires. The method helps in getting great cooperation and participant’s lower rejection rates (Owens, 2002).

## **Measures**

The study used instruments to measure the constructs concerned, in addition to measure personal information, in order to determine demographic variables of academics. These instruments are Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England, & Lofquist, 1967) to measure academic's satisfaction with his or her job, the Pay Satisfaction Questionnaire (PSQ) to assess academic's feelings of their pays (Heneman & Schwab, 1985), and the Work Preference Inventory (WPI) (Amabile, et al., 1994) which has provided an assessment of academic's differences in motivational orientation toward their work.

### **Minnesota Satisfaction Questionnaire (MSQ)**

Organizations have measured the job satisfaction attitude frequently. The Minnesota Satisfaction Questionnaire (MSQ) is the most famous instrument to evaluate job satisfaction of employees in work. The MSQ has two forms, the long form and the short form. The long form contain 100 questions covering 20 aspects, each aspect is measured by 5 five items. The short form is a short version of the long version. It comprise 20 aspects, and each aspect is measured by one item. Each item is rated on 5-point lickert scale with responses ranging from "very dissatisfied" to "very satisfied". The twenty aspects scales include: Ability Utilization, Achievement, Activity Advancement, Authority, Company Policies, Compensation, Co-workers, Creativity, Independence, Moral Values, Recognition, Responsibility, Security,

Social Service, Social Status, Supervision-Human Relations, Supervision-Technical, Variety, and Working Conditions.

The MSQ was chosen due to its explicit theoretical formulation (Bolton, 1986), and because it measures dimensions of job satisfaction, that are not measured by other satisfaction instruments (Cook, Hepworth, Wall & Warr, 1981).

### **Pay Satisfaction Questionnaire (PSQ)**

Pay satisfaction at work can be measured by the Pay Satisfaction Questionnaire (PSQ). It several pay dimensions towards has assessed individuals feeling. These dimensions include: Pay level, Pay raise, benefits, and structure or administration. Pay level refers to the individual's current direct wage or salary, while raises refer to the individual's changes in pay level. Benefits concern indirect pay in form of payment for time not worked (insurance, pensions...). Pay structure or administration reflect the internal pay rates for different jobs and the methods used to distribute pay. The PSQ with 18 items is the only available instrument to measure pay satisfaction in form of multidimensional. It scores the degree of satisfaction with various facets of pay on 5-point lickert type scale, ranging from 1 (Very Dissatisfied) to 5 (Very Satisfied).

### **Work Preference Inventory (WPI)**

To measure intrinsic motivation, the Work Preference Inventory (WPI) is the suitable tool. The WPI is designed to assess individual differences in intrinsic and extrinsic motivational orientations toward their work. The WPI consists 30 items to assess working adult's overall intrinsic motivation and extrinsic motivation toward their work on two primary scales, 15 items for each one. Each primary scale subdivided into two secondary scales. The intrinsic motivation is subdivided into enjoyment and challenge, while the extrinsic motivation is subdivided into outward and compensation. The WPI is a measure rated on 4-point Likert scale, from 1 (Never or almost never true of me) to 4 (always or always true of me). In fact, the current study has used only the intrinsic motivation scale to assess academics differences in intrinsic motivational orientation toward their work.

### **Translation of instruments**

The translation of instruments into other language than their native language is often used when it comes to apply in an environment that does not speak the original language written by. For instance, the MSQ was translated into French (roussel & al, 1996), and Turkish (Frazier, 2009; Eyupoglu, & Saner, 2009), the PSQ was translated into Spanish (Garcia, Posthuma, Mumford & Quifiones, 2009), and the WPI was translated into Croatian (Cvek, Hren, Sambunjak, Planinc, Mačković, Marušić & Marušić, 2009).

In current study, the three instruments were translated into Arabic, the official language in Algeria by the author herself. The test of validities was based on academics opinions (specialized In English language and human resource management). Some simple modifications were carried out on some items of the instruments to fit in with population and Algerian culture. These modifications, in fact, have touched only the pay satisfaction questionnaire (PSQ). Two items from the pay level dimensions were modified, “my take-home pay” to “my net salary” and “my overall level pay” to “my basic pay”.

### **Factor analysis**

A factor analysis was conducted using SPSS version 20.0 for all studied variables separately. Only items with factor loadings of 0.50 or above were taken. All items for instruments were factor analyzed. For MSQ, the rotated matrix of factor is presented in table 2. which resulted in 18 items, and six factors, after exclusion of two items (1 and 9).

Results given by the rotation process resulting from the use of factor analysis of PSQ are shown in Table 3. The rotation has maintained the four factors of pay satisfaction, but with different natures. The new dimensions or factors were: pay level and pay raise, Benefits, pay equity, and supervisor effect. The factor analysis results has combined the pay level and pay raise in one dimension, which means that academics do not distinguish between pay level and pay raise.

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The work preference inventory (WPI), with items, was factor analyzed. Three new dimensions (work and perceived competence, challenge, and self-definition) were resulted, as illustrated in Table 4.

Table 2. The rotated matrix of factor for MSQ

Items	Factors					
	Work environment	Social needs	Job value	Intrinsic satisfaction	Creativity and independence	Control
The competence of my supervisor in making decision	0.849					
The way my boss handles his/her workers	0.767					
The working conditions	0.617					
The praise I get for doing a good job	0.544					
The way University policies are put into practice	0.521					
The chance to do different things from time to time		0.753				
The chance to be somebody in the community		0.583				
The feeling of accomplishment I get from the job		0.534				
The way my co-workers get along with each other		0.532				
My pay and the amount of work I do						
Being able to keep busy all the time						
The chances for advancement on this job						
Being able to do things that don't go against my conscience			0.786			
The way my job provides for steady employment			0.730			
The chance to try my own methods of doing the job			0.673	0.776		
The chance to work alone on the job				0.718		
The chance to tell people what to do					0.844	
Chance to do something that makes use of my abilities					0.799	0.685
						0.540



**Table 3. The rotated matrix of factor for PSQ**

Items	Pay level and pay raise	Benifits	Pay equity	Supervisor effect
My current salary	0.849			
My net pay	0.820	0.816		
My most recent raise				
The raises I have typically received in the past	0.779			
The University's pay structure	0.739			
The number of benifits i receive		0.801		
The value of my benefits		0.741		
How my raises are determined		0.725		
My benefit package		0.705		
Amount the University pays toward my benefits		0.687		
Pay of other jobs in the University			0.729	
Differences in pay among jobs in the University			0.712	
How the University administers pay			0.662	
influence my supervisor has on my pay				0.905

**Table 4. The rotated matrix of factor for WPI**

Items	Work and perceived competence	challenge	Self-determination
The more difficult the problem, the more i enjoy trying to solve it	0.884		
I prefer work I know I can do well over work that stretches my abilities	0.857		
I enjoy teakling problem that are completely new to me	0.819		
I enjoy trying to solve complex problems	0.680		
I want to find out how good i really can be at my work		0.837	
I want my work to provide me with opportunities for increasing my knowledge and skill		0.800	
I'm more comfortable when I can set my own goals		0.608	
I enjoy doing work that is so absorbing that I forget about everything else		0.510	
It is important for me to be able to do what i most enjoy			0.810
It is important for me to have an outlet for self-expression			0.583

## The reliability

The reliability estimates for job satisfaction, pay satisfaction, and intrinsic motivation were computed using Cronbach's Alpha technique. Results of the analysis are providing in Table 5. Indicating higher levels for all construct.

Table 5. Reliability estimation

Variables	N	Number of items	Alpha scores
Job satisfaction	298	18	0.834
Pay satisfaction	298	14	0.922
Intrinsic motivation	298	10	0.775

## Results

Data from the survey were analysed using Statistical Package for Social Sciences (SPSS) version 20.0. The mean scores (M) and standard deviation (SD) for job satisfaction, pay satisfaction, and intrinsic motivation of academic in Algeria can be showed in Table 6., Table 7., and Table8. respectively. The faculty members in Setif university were intrinsically motivated (M = 2.871), and they were more pushed by challenge (M = 3.208). They were not satisfied nor dissatisfied with their jobs (M = 2.949), because they were satisfied with some job dimensions and dissatisfied with others. Also they were dissatisfied with their pay (M = 2.265).

The study findings are consistent with some previous studies results. As Spector (1997) confirmed, employees might be satisfied with some aspects of their jobs, and dissatisfied with others. The faculty members of Setif University expressed job satisfaction, similar to the job satisfaction of

Malysian University academics (Noordin & Jusoff, 2009), and the job satisfaction of Turkish Universities academics (Bas & Ardic, 2002), where it was average on the whole. Concerning pay satisfaction, the previous studies findings have showed pay dissatisfaction of faculty members in Turkish universities (Kusku, 2003; Bas & Ardic, 2002), and even in British universities (Oshagbemi, 1997, Hemmasi, Graf & Lust, 1992). In Saudi Arabia, the faculty members were intrinsically motivated, and there was a greater interest in intrinsic motivation, as a personnel measure for success inside the classroom (Abdul-Cader & Anthony, 2014).

**Table 6. Job Satisfaction means scores and standard deviations**

<b>Variables</b>	<b>N</b>	<b>M</b>	<b>SD</b>
Work environment	298	2.710	0.765
Social needs	298	3.000	0.747
Job value (	298	2.579	0.832
Intrinsic motivation	298	3.434	0.865
Creativity and independence	298	3.345	0.858
control	298	2.624	0.823
Job satisfaction	298	2.949	0.538
Job satisfaction	298	2.949	0.538

M: mean. SD: standard deviation

**Table 7. Pay Satisfaction means scores and standard deviations**

<b>Variables</b>	<b>N</b>	<b>M</b>	<b>SD</b>
Pay level and pay raise	298	2.010	0.826
benefits	298	1.950	0.730
Pay equity	298	2.246	0.727
Supervisor effect	298	2.855	0.979
pay satisfaction	298	2.265	0.631

M : mean. SD : standard deviation

Table 8. Intrinsic motivation means scores and standard deviations

Variables	N	M	SD
Self determination	298	2.901	0.551
challenge	298	3.208	0.477
Work and cometenec	298	2.504	0.635
Intrinsic motivation	298	2.871	0.393

M : mean. SD : standard deviation

Correlation between variables are shown in Table 9. As shown intrinsic motivation ( $r=0.178$ ,  $p<0.001$ ) was positively correlated with job satisfaction, but this correlation was weak. More analysis with regression analysis, showed positive effect of intrinsic motivation on job satisfaction ( $\beta=0.244$ ,  $p<0.001$ ). F-Test was statically significant, which means that the model was statistically significant. The T-Test for intrinsic motivation equal 3.115, and was statistically significant, meaning that the regression coefficient for IM was significantly different from Zero. Even the R-Square was very low, it was still significant, and the Coefficient for IM was 0.244, meaning that for a one unit (point in Lickert scale) increase in IM, we would expect a 0.244 unit increase in JS. As a result, it was expected that the value of all IM is close to 4, means that faculty members were quite intrinsically motivated by their work. The faculty members in Setif University were intrinsically motivated, as illustrated in Table 8. (M = 2.871), and the chance to become highly intrinsically motivated is by moving only one unit on lickert scale (M = 4), therefore, the

job satisfaction has to change to move  $\frac{1}{4}$  on the lickert scale, and the state stilled not satisfied nor dissatisfied. Hypothesis 1 suggests that intrinsic motivation has a positive effect on job satisfaction. There is support for this hypothesis. There is literature review (Saleem, Mahmood & Mahmood, 2010), which go with this finding, where the value of Beta showed positive relationship between intrinsic motivation and job satisfaction, but not a strong relationship. Also the value of R-Square was too low that can be used for the relationship analysis of variables.

If we take into consideration the existence of a relationship between IM and JS, regardless of its strength, the results of previous studies, as mentioned in literature review will take the same direction. Previous studies showed a significant and positive relationship between intrinsic motivation or intrinsic motivational factors and job satisfaction, and intrinsic motivation can enhance job satisfaction (Raza, et al., 2015; Masvaure, et al., 2014). Furthermore, intrinsic motivation of the employees, simultaneously have significant impact on employees' job satisfaction. Some studies have endorsed the existence of the relationship between variables, but in the opposite direction, that is to say: the intensive motivation was an outcome of job satisfaction of teachers in public educational institutions (Catharina & Victoria, 2015; Shah, et al., 2012). While some researchers have showed a positive correlation between motivation, in general, and job satisfaction, in

other words, motivation increased with increased job satisfaction and vice-versa (Singh & Tiwari, 2011).

The results in Table 9. reveals a positive correlation between intrinsic motivation and pay satisfaction, at a significant level ( $r = 0.218$ ,  $p < 0.001$ ), but this correlation was weak. The regression analysis, also has showed a positive effect of intrinsic motivation on pay satisfaction ( $\beta = 0.350$ ,  $p < 0.001$ ), with very low R-Square (0.048). The F-Test was statistically significant ( $F = 14.784$ ,  $p < 0.001$ ). The T-Test for intrinsic motivation was 3.845 and statistically significant ( $p < 0.001$ ) which means that the regression coefficient was significantly different from Zero. If intrinsic motivation increases one unit, this will leads to 0.350 unit increase in pay satisfaction, which will end the state of dissatisfaction with pay for faculty members. The hypothesis 2 has suggested that intrinsic motivation has a positive effect on pay satisfaction. The results supported the hypothesis. There exists little research that has studied the relationship between intrinsic motivation and pay satisfaction. Stringer, et al., (2011) realized that intrinsic motivation was positively associated with pay satisfaction.

Further finding, as shown in table 9., indicated that pay satisfaction has a positive strong and statistically significant association with job satisfaction ( $r = 0.600$ ,  $p < 0.001$ ). The regression analysis has confirmed this result ( $\beta = 0.511$ ,  $p < 0.001$ ). The F-Value was ( $F = 166.179$ ,  $p < 0.001$ ) indicating a

usefulness of the model for relationship. The T-Test was ( $T=12.891, p<0.001$ ) means that PS was significantly different from Zero. The R-Square (0.360) was 36% of variance explained by the model which means that a variation in one unit of pay satisfaction explained 0.36 unit in job satisfaction. Hypothesis 3 suggests that pay satisfaction has a positive effect on job satisfaction. There is was a support for this hypothesis. That has demonstrated that the job satisfaction of faculty members in Setif University in Algeria increased when their pay satisfaction increased. Consistent with this finding, a number of previous studies (Chaudhry, et al., 2011; Sharma & Bajpai, 2011; Danish, shahid & Aslam,2015 ) has proved that pay satisfaction was strongly and positively related to job satisfaction.

Table 9. Correlations between Pay satisfaction, job satisfaction, and intrinsic motivation

	Pay satisfaction	Job satisfaction	Intrinsic motivation
Pay satisfaction pearson correlation Sig. (unilateral N	1 298		
Job satisfaction pearson correlation Sig. (unilateral N	0.600 0.000 298	1  298	
Intrinsic motivation pearson correlation Sig. (unilateral N	0.218 0.000 298	0.178 0.001 298	1  298

## **Conclusion and recommendation**

The faculty members of Setif University have showed average level of job satisfaction, low level of pay satisfaction (i.e. Pay dissatisfaction), while they were intrinsically motivated at work. The relationships between intrinsic motivation and job satisfaction, intrinsic motivation and pay satisfaction, and pay satisfaction and job satisfaction correspond to what is reported in hypotheses and literature.

Even the weak correlations between intrinsic motivation, and job satisfaction and pay satisfaction, the increase or decrease in intrinsic motivation leads to increase or decrease in job satisfaction and pay satisfaction of faculty members. Also the increase or decrease in their pay satisfaction leads to a big increase or decrease in their job satisfaction.

The study provided some important relationships between extremely important variables, as intrinsic motivation, job satisfaction and pay satisfaction. The results of the current study can contribute to the improvement of the decisions making at the University. They can contribute in providing levels of these variables that have a significant impact on performance, in the University.

Higher education managers and responsible have some control over workplace, and can influence intrinsic motivation and work challenge. There are different ways for Universities to improve their workplace environment in



order to increase job satisfaction. For instance, it is important to have a job environment that enhances work conditions, social relationships, and giving more control of faculty members on their work.

We should take in account that faculty members are looking for excellence, and developing professionally throughout their careers. Intrinsic motivation can be for some improvement in job satisfaction, but this improvement would not make a great change, because the study has showed that job satisfaction of faculty members was influenced by other factors than intrinsic motivation. Pay satisfaction was one of these factors, in which change in pay satisfaction have leaded to a significant change in job satisfaction. However, pay satisfaction of faculty members has not been significantly influenced by the extent of their intrinsic motivation, but by other factors. To apply this, the higher education ministry should give reconsideration for pay system, in order to improve pay satisfaction levels. The pay system of higher education has not been revised since 8 years, compared with pay systems in other sectors.

Despite the importance of study findings, they cannot be generalized to other universities, because the study was done in only one University, and because the University of Setif was characterized by an inherent trait which is strike or temporary stop work frequently. This frequent breaks from work was due to many reasons. The most important reason was the demand from

ministry of higher education access to the region allowance (80% from basic salary) given to some Universities neglecting others, depending on the geographical area where it applied.

According to the above results and information, the actual study suggests future studies to expand the sample to include more than one University. It suggests also to investigate the relationships between intrinsic motivation, job satisfaction, and pay satisfaction, and compare between universities which give region allowance to their academics vs. Universities which have not this sort of allowance. Furthermore, the study recommends the insertion of intermediate variables in future research. As region allowance is related to pay equity, it is better to introduce this variable in correlations future studies.

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