



## Validating Measures of Hertzberg-Two-Factor Theory in the Context of Academic staff at Kyambogo University

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### Abstract

*The study validated the measures of Hertzberg two-factor theory in the context of full-time academic staff at Kyambogo University. Basing on the conceptualization by Hertzberg (1951), the theory was studied in terms of intrinsic and extrinsic job satisfaction. This cross-sectional study involved a sample of 201 from full-time academic staff at Kyambogo University, data were collected using a self-administered questionnaire. Descriptive statistics and structural equation modelling (SEM) using Smart PLS for partial least square structural equation modelling (PLS-SEM) was used to determine the measures of two-factor theory. Descriptive results indicated that two constructs of intrinsic and extrinsic job satisfaction were high. PLS-SEM indicated that the two constructs of intrinsic and extrinsic job satisfaction were appropriate measures of the Hertzberg two-factor theory. It was concluded that Kyambogo University managers promoted high level of intrinsic and extrinsic job satisfaction towards academic staff. Therefore, the study recommended that Kyambogo University managers need to ensure both intrinsic and extrinsic job satisfaction is enhanced among full-time academic staff.*

**Keywords:** Job satisfaction, Intrinsic, Extrinsic, Hertzberg two-factor theory, Academic Staff

### INTRODUCTION

Frederick Hertzberg's research on job satisfaction in 1959 gave rise to his Two-Factor Theory, which is often referred to as the Motivator-Hygiene Theory. He conducted a poll of 200 engineers and accountants from nine US organizations, asking them to consider their work experiences and rank their feeling during the time especially when they felt happy or unhappy with their jobs. The main variables influencing workers' job satisfaction were identified with the aid of this study (Hertzberg, 2011). Hertzberg's research revealed that positive sentiments were tied to aspects of the job itself (motivators), while negative sentiments were linked to the job's environment or hygiene factors. This led to his development of the Satisfier-Hygiene Factor Theory (Khanna, 2017). Hertzberg proposed that motivators, such as achievement, recognition, and opportunities for growth, are inherent to the job and drive satisfaction. Likewise, hygiene factors, including, interpersonal relationships, salary, company policies, supervision, working conditions, job security, personal life, and status can lead to dissatisfaction if not adequately addressed (Hertzberg et al., 1959). The Two-Factor Theory suggests that employers can create a positive work environment by addressing these extrinsic



factors, which can eliminate dissatisfaction but may not necessarily boost satisfaction. In other words, providing hygiene factors prevents dissatisfaction, but doesn't guarantee satisfaction (Yusoff et al., 2013). In essence, hygiene factors focus on preventing dissatisfaction, while motivators aim to increase satisfaction (Charano & Harijanto, 2015).

According to Bashir and Gani (2020), universities should prioritize improving job satisfaction among academic staff, as it has a direct positive impact on their performance. In other words, when academic staff are happy and satisfied with their jobs, they tend to perform better, whereas a lack of job satisfaction leads to reduced performance and productivity. Alkahtani et al. (2021) further emphasize that academic staff with high job satisfaction tend to be more motivated and engaged in their work, whereas those with lower satisfaction levels tend to be less motivated. Moreover, satisfied academic staff are more likely to remain at the university long-term, leading to increased productivity. This inner sense of satisfaction not only fuels their motivation but also promotes organizational satisfaction, ultimately driving them to excel in their roles (Mehrad et al., 2015). Contrary to the desired outcome, the job satisfaction of academic staff at Kyambogo University appears to be subpar. Evidence of this can be seen in the substandard practices of some academic staff, such as neglecting to properly grade students' coursework and final exams, while others engage in unethical behavior like falsifying grades and facilitating exam cheating (Kato et al., 2023). This suggests a lack of commitment to academic excellence and a concerning level of dissatisfaction among the academic staff.

Additionally, academic staff responsible for supervising postgraduate research exhibit a lack of dedication, as evidenced by their failure to ensure timely graduation of their students. Specifically, the average completion rate for master's students is alarmingly low, with less than 30% of students graduating on schedule (Malunda et al., 2021). This suggests a concerning level of apathy and inattention from academic staff towards their supervisory responsibilities. Moreover, academic staff at Kyambogo University spend a significant amount of time engaged in disputes and protests over issues like salary increases and inadequate human resource processes, such as promotion procedures (Rwothumio et al., 2016). The cumulative effect of these issues, as evident from the empirical evidence, suggests that academic staff at Kyambogo University experience low job satisfaction. This highlights the need for a study to validate the application of Herzberg's two-factor theory within the context of Kyambogo University's academic staff, with the aim of testing and validating;

The intrinsic job satisfaction of academic staff at Kyambogo University

The extrinsic job satisfaction of academic staff at Kyambogo University

## Empirical Review

Job satisfaction refers to the extent to which an individual feels content and fulfilled in their role (Berber et al., 2022). Similarly, Erarslan (2021) describes job satisfaction as a positive emotional experience that arises from an individual's assessment of their job as rewarding and meeting their needs. Acosta-Prado et al. (2021) describe job satisfaction as a composite of feelings that reflect employees' attitudes towards their work. In contrast, Inayat et al. (2021) argue that job satisfaction is a positive and enjoyable emotional experience that stems from



evaluating one's role or overall work environment, leading to a sense of joy and fulfillment. According to both definitions, job satisfaction is essentially a personal, subjective emotional experience connected to one's work. As a result, job satisfaction has become a widely studied topic in organizational psychology. Herzberg et al. (1959) introduced the two-factor theory, which categorizes job satisfaction into intrinsic and extrinsic factors.

Hertzberg (1968) suggests that intrinsic job satisfaction, also referred to as motivator factors, encompasses the inherent elements of a job that enhance an individual's satisfaction, such as the work itself, opportunities for growth, and sense of accomplishment. These motivators include aspects like independence, flexibility, recognition, sense of direction, job stability, influence, skill development, ownership, originality, success, and chances for career advancement (Bušatlić & Mujabašić, 2018). These factors are inherent to the job and contribute to an individual's overall sense of satisfaction. Scholars (Hassan & Romle, 2015; Martins & Proenca, 2012; Polo, 2016; Tremblay et al., 2009) have measured intrinsic job satisfaction. Research has shown that intrinsic job satisfaction can be measured in various ways. For example, Hassan and Romle (2015) developed a scale with indicators such as autonomy, decision-making, and innovation. Martins and Proenca (2012) used the Minnesota Job Satisfaction Questionnaire with indicators like keeping busy, working alone, and having opportunities to grow. Other studies have used indicators like freedom, recognition, skill usage, and pleasure from learning (Polo, 2016; Tremblay et al., 2009). While these studies demonstrate the measurability of intrinsic job satisfaction, the varying indicators suggest that there may not be a standard instrument available, highlighting the need to validate the two-factor theory measurement scales.

Extrinsic job satisfaction, sometimes referred to as the hygiene factors, encompasses the cumulative effect of all elements that impact an employee's job satisfaction, unrelated to the inherent nature of their work itself. These factors encompass company rules and management, supervision style, work atmosphere, colleague relationships, pay, professional standing, and employment stability (Rao et al., 2018). Researchers (Hills et al., 2012; Mafini & Dlodlo, 2014; Marijani, 2011; Martins & Proenca, 2012) measured indicators of extrinsic job satisfaction in different context. For instance, Hills et al. (2012) and Mafini and Dlodlo (2014) developed measures for extrinsic job satisfaction, which included various indicators such as, autonomy in work style and variety in tasks, skill utilization and recognition for efforts, job responsibility and opportunities for growth, satisfaction with pay, benefits, and time off, adequacy of resources and positive work environment, opportunities for advancement and professional growth, effective leadership and constructive feedback. Martins and Proenca (2012) developed the Minnesota Job Satisfaction Questionnaire, which assessed extrinsic job satisfaction through indicators such as, positive leadership and management, effective decision-making by superiors, favourable working conditions, good relationships with colleagues, recognition for good work, effective supervision. On other hand, Marijani (2011) also measured job satisfaction, using indicators like, keeping busy, autonomy in work, variety in tasks, community recognition, alignment with personal values, opportunities to help others, opportunities to provide guidance. These studies highlight the variation in indicators used to measure extrinsic job satisfaction, emphasizing the need for a standardized instrument to consistently assess this construct. This led to the development of a new measuring scale.



## METHODOLOGY

### Research Design and Study Population

This study utilized a cross-sectional approach to collect data from full-time academic personnel at Kyambogo University, offering a snapshot into the present state of the variables being examined (Maier et al., 2023). Initially, a sample of 201 was selected from a population of 415, based on the Krejcie and Morgan (1970) table for determining sample size. However, after data cleaning and removal of missing data and outliers, the final analysis included data from 175 staff members. To ensure representativeness and generalizability to the broader population, a random sampling method was employed, giving each academic staff member an equal opportunity to participate.

### Instrument

The data collection instrument was a self-administered questionnaire adapted from Martins and Proenca's (2012) earlier instrument, which operationalized job satisfaction into extrinsic and intrinsic dimensions. Intrinsic job satisfaction was measured through indicators such as, keeping busy at work, having opportunities to work independently, engaging in diverse tasks, feeling accomplished and recognized, aligning work with personal values, enjoying job security, having opportunities to help others, guiding colleagues, utilizing abilities, exercising judgment, feeling accomplished, staying busy. Extrinsic job satisfaction was measured using indicators that approving of management style, confident in superiors' decision-making, satisfied with policy implementation, favourable working conditions, positive colleague relationships, receiving praise for good work, effective supervision. Each dimension's indicators were scaled using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), with anchors including Strongly Disagreed (SD), Disagreed (D), Not Sure (NS), Agreed (A), and Strongly Agreed (SA).

### Data Analysis

The data analysis involved computing descriptive statistics, including frequencies and percentages, for the lecturers' background characteristics. SmartPLS was utilized to develop measurement models that ensured validity and reliability. The measurement models included a validity and reliability test. Validity testing encompassed calculating the Heterotrait-Monotrait (HTMT) ratio of correlation and the Average Variance Extracted (AVE) to determine whether the measure indicators were consistent and independent. Reliability tests involved Cronbach's Alpha and Composite Reliability (CR). However, CR was tested since it allows indicators of variables to become reliable, and it takes into account the external properties of the indicator variables. Partial least squares structural equation modeling (PLS-SEM) was employed to create a model that shows relevant indicators for the various components of job satisfaction based on Herzberg's two-factor theory.

## RESULTS



## Background Characteristics of the Study Participants

The study participants' background information comprised their gender, marital status, academic rank, teaching tenure at the university, and highest academic qualification. In terms of gender, 69% of the research participants were male, while 31% were female. The data on respondents' marital status revealed that 85.9% were married, 11.5% were single, and 2.6% were cohabiting. According to their academic status, 41% held the position of assistant lecturer, 39.1% were lecturers, 13.5% were senior lecturers, 3.2% were associate professors, 2.9% were graduate fellows, and 1.3% were professors. The findings on teaching tenure at the university showed that 73.7% of the teaching staff had served for over five years, 17.9% had taught for three to four years, 5.8% had taught for one to two years, and 2.6% had taught for less than a year. Regarding their highest academic qualification, 49.4% of the academic staff held Master's degrees, 48% held PhDs, and 1.3% held Bachelor's degrees and postgraduate diplomas. Consequently, the findings were applicable to academic personnel with diverse academic qualifications at the university.

## Measurement Models

The measurement models included descriptive results, presented as means, as well as validity tests, specifically the Average Variance Extracted (AVE) and Heterotrait-Monotrait (HTMT) ratio for discriminant validity, and reliability tests, including composite reliability (CR) and Cronbach's Alpha. Additionally, collinearity values were assessed using Variance Inflation Factor (VIF) values. The results are presented in Tables 1 and 2, respectively.

**Table 1: Descriptive Results, AVE and Heterotrait-Monotriat (HTMT) Discriminant Validity Assessment**

| Measures of Job Satisfaction | Mean | AVE   | EJ    | IJ    |
|------------------------------|------|-------|-------|-------|
| IJ                           | 4.14 | 0.507 | 0.242 |       |
| EJ                           | 3.74 | 0.571 | 0.852 | 0.785 |

Abbreviation: IJS= Intrinsic Job Satisfaction, EJ=Extrinsic Job Satisfaction, AVE= Average Variance Extracted

As shown in Table 1, the descriptive results indicate high levels of job satisfaction, both intrinsic (mean = 4.14) and extrinsic (mean = 3.74), aligning with Hertzberg's two-factor theory. The Average Variance Extracted (AVE) values, exceeding the 0.5 threshold (Cheung et al., 2023), demonstrate convergent validity, confirming that distinct constructs measure job satisfaction based on Hertzberg's theory. The Heterotrait-Monotrait (HTMT) ratio of correlation, used to assess discriminant validity, shows that the constructs (intrinsic and extrinsic) measuring job satisfaction maintain their independence, as all HTMT values fall below the 0.90 limit (Roemer et al., 2021). This confirms the discriminant validity of the constructs measuring Hertzberg's two-factor theory (Hair Jr et al., 2020). Therefore, both intrinsic and extrinsic factors distinctly measure job satisfaction, supporting Hertzberg's two-factor theory.

**Table 2**  
**Reliability and Collinearity**



| Measures of Job Satisfaction | ( $\alpha$ ) | CR    | VIF   |
|------------------------------|--------------|-------|-------|
| Extrinsic                    | 0.829        | 0.875 | 1.030 |
| Intrinsic                    | 0.748        | 0.841 | 1.030 |

Table 2 reveals that the reliability tests yielded satisfactory results, with Cronbach's Alpha ( $\alpha$ ) and composite reliability (CR) values exceeding the minimum threshold of 0.70, indicating reliable indicators for the variables. Notably, composite reliability was preferred over Cronbach's Alpha due to the latter's limitations, such as assuming equal indicator features in the study population, which can lead to underestimated reliability scores (Hair Jr. et al., 2021). Moreover, Cronbach's Alpha is sensitive to the number of scale items, whereas composite reliability considers the external properties of indicator variables, making it a more liberal and comprehensive measure (Fu et al., 2022). Furthermore, the Variance Inflation Factor (VIF) analysis showed no significant collinearity between the constructs measuring job satisfaction based on Herzberg's two-factor theory, as all VIF values were below the maximum threshold of 5 (Tomaschek et al., 2018). This indicates that the constructs used to measure job satisfaction are independent and measure the theory distinctly.

Figure 1

### Structural Model for Job Satisfaction According to Herzberg Two-Factor Theory

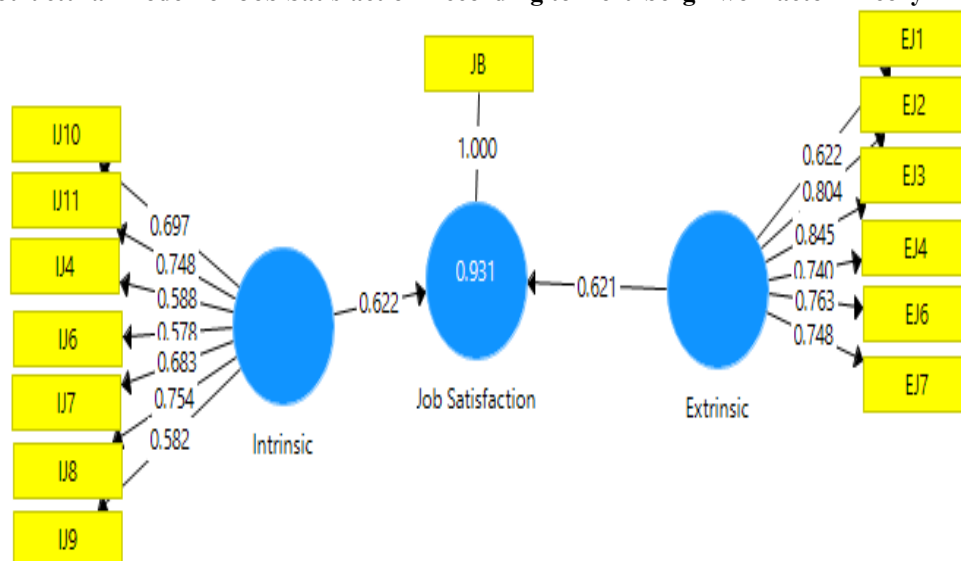


Figure 1 depicts job satisfaction as a two-dimensional concept, encompassing intrinsic and extrinsic aspects. Factor analysis revealed that seven items (IJ4, IJ6, IJ7, IJ8, IJ9, IJ10, IJ11) out of twelve measuring intrinsic job satisfaction showed strong loadings (above 0.5), confirming their relevance. The remaining five items (IJ1, IJ2, IJ3, IJ5, IJ12) were removed due to lower loadings. Similarly, six items (EJ1, EJ2, EJ3, EJ4, EJ6, EJ7) out of seven measuring extrinsic job satisfaction demonstrated strong loadings, while one item (EJ5) was removed due to a loading below 0.5. The retained items in the model thereby demonstrated adequate validity as measures of their respective constructs.

## DISCUSSION

The findings suggest that intrinsic and extrinsic job satisfaction are valid and relevant measures of Herzberg's Motivation-Hygiene Theory. For instance, the majority of indicators measuring intrinsic job satisfaction align with previous research. The investigation indicated that enjoying creative freedom and innovation opportunities, exercising self-management and autonomy in decision-making (Hassan & Romle, 2015), maintaining a productive workload, having flexibility to work independently and engage in diverse tasks, experiencing personal fulfillment and recognition (Martins & Proenca, 2012) are consistent with the construct. Moreover, having the autonomy to select one's work approach, receiving acknowledgment, being entrusted with accountability, and having the opportunity to utilize skills and receive feedback on individual contributions (Polo, 2016) are indicators of intrinsic job satisfaction. Also, experiencing enjoyment from acquiring new knowledge, finding fulfillment in tackling engaging challenges, and feeling a sense of accomplishment when overcoming complex tasks (Tremblay et al., 2009) are further validated indicators. Therefore, it can be confirmed that the examined indicators are reliable measures of intrinsic work satisfaction, consistent with earlier measuring scales.





For extrinsic job satisfaction, the indicators were confirmed to measure the construct consistently with previous researchers. The study revealed that indicators such as appreciation for one's supervisor's management style, confidence in superiors' decision-making competence, satisfaction with policy implementation, working conditions, colleague relationships, and recognition for a job well done (Martins & Proenca, 2012) align with the construct. Additionally, indicators like opportunities for community recognition, a clear conscience, helping others, and offering advice (Marijani, 2011) also measure extrinsic job satisfaction. Furthermore, the study found that indicators such as job vacation/leave policies, adequate facilities, opportunities for advancement, regular professional development, superior decision-making competence, varied work, skill utilization, recognition for efforts, and assigned responsibility (Mafini & Dlodlo, 2014; Hills et al., 2012) also measure extrinsic job satisfaction. Since the findings align with previous measurement scales, it confirms that the studied indicators are valid measures of extrinsic job satisfaction.

## CONCLUSION

The study concluded that the two constructs of intrinsic and extrinsic job satisfaction are valid measures of Hertzberg's two-factor theory. The study found that the indicators that measure intrinsic job satisfaction are that keeping busy while at work, having the opportunity to make a meaningful contribution, loving one's job for its stability, helping to accomplish various tasks, guiding others, utilizing one's abilities, and experiencing a sense of accomplishment. Furthermore, the study revealed that the indicators that measure extrinsic job satisfaction include appreciation for one's supervisor's management style, confidence in superiors' decision-making competence, satisfaction with policy implementation, working conditions, recognition for a job well done, and effective superior-subordinate relationships.

## Recommendations

The study recommends using the evaluated indicators to measure intrinsic and extrinsic job satisfaction, the two components of Hertzberg's two-factor theory, in future research. Following testing and validation, these indicators provide a solid foundation for exploring the Hertzberg two-factor theory in various contexts. With confidence, researchers can investigate how these job satisfaction variables impact behavioral variables. The indicators for intrinsic job satisfaction include; keeping busy at work, having opportunities to make a meaningful contribution, loving one's job for its stability, helping to accomplish various tasks, guiding others, utilizing one's abilities, having the freedom to use one's judgment, and experiencing a sense of accomplishment. Additionally, the indicators for extrinsic job satisfaction include; appreciating one's supervisor's management style, confidence in superiors' decision-making competence, satisfaction with policy implementation, working conditions, recognition for a job well done, and effective superior-subordinate relationships.

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