Measuring Hospitality and Tourism Management Students' Satisfaction with Work-Related Learning Using Partial Least Squares in Zimbabwe

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Research Article

Abstract

Purpose: *The study assessed Tourism and Hospitality Students' satisfaction with work-related learning (WRL) attachment using a two-stage extended model proposed by Taylor and Geldenhuys (2019). It also intends to determine if there are significant student satisfaction differences between males and females and between the students pursuing bachelor or diploma in Tourism and hospitality. Also, the study assessed if there is a moderation effect of a third variable (intermediate) on expectation and perception to students' satisfaction.*

Method: *Data were collected from 488 students using a survey instrument at the onset and the end of the attachment. Analysis of results was done using both SPSS 23 and R 4.0.3. The study also applied the Multi-Group Analysis-Partial Least Squares (MGA-PLS) analysis permutation to test students' satisfaction.*

Results: *The research found no significant differences between males and females, and the students' category (bachelor and diploma) on both Expectation-Satisfaction and Perception-Satisfaction relationship in model A. However, the study found significant differences between males and females in the perception-satisfaction relationship in Model B. The MGSA-PLS results revealed that male students have a positive and significant effect on the perception-satisfaction relationship as opposed to a negative and insignificant effect for females. The moderating effect test revealed that a third construct, INTER - Intermediate variable (a product of construct Perceptions and Expectation) has a positive impact on student satisfaction.*

Implications: *There is a need for collaboration between hospitality industry players and academics in curriculum design, so as to meet the demands of the industry.*

1. Introduction

According to Zimbabwe Tourism Authority (2019), the tourism and hospitality industry has contributed 6.3% to gross domestic product (GDP), 3.7% to employment, and 4.7% contribution to export with total receipts of US$1,247 million. The industry is growing and there is a high need for qualified, skilled, and competent employees to warrant the sustainable success and competitiveness of the tourism and hospitality industry. An increase in total receipts means there is a need to increase employees to serve the needs of the increasing customers to consolidate the revenue thus increase in the number of staff in operations. Students on work-related learning (WRL) are a key in enhancing employee numbers in the tourism industry and also the WRL attachment is a prerequisite of tourism and hospitality studies at higher education institutions in the country (MSU, 2015). WRL attachment enables easy passage of students to the actual world of work plugging the gap between theoretical learning and practical learning (Owusu-Mintah & Kissi, 2012). WRL attachments are affected by a number of stakeholders including the students, higher education institutions (HEI), government, and employers (Kamuzunyu, 2010). It is prudent to investigate the students' satisfaction with WRL in order to improve on curricula, work organization, education institution support and prepare the students well for WRL attachment. According to Ko (2008), tourism students' perceptions are decreasing and their passion to work in the tourism industry has significantly decreased with just 50% of them being prepared to work in the industry. Many trained talented students will end up serving in other industries and this has a bad effect on the tourism industry, training institutions, and government planning on higher education.

Accordingly, this study focused on measuring hospitality and tourism students' satisfaction with WRL using partial least squares at polytechnics and universities to inform accordingly the stakeholders. The study assessed if there are significant differences between males and females and also between those pursuing bachelor and diploma in Tourism and hospitality using the Multi-Group Analysis-Partial Least Squares (MGA-PLS) approach based on both the two-stage extended Conceptual framework (model A and B). The study further assessed the moderation effect of a third variable Expectation on the perception to satisfaction using the Two-Stage PLS procedure on both models A and B. The research used two models (models A and B) based on Taylor and Geldenhuys (2019) and the modified conceptual framework linking expectation and perceptions constructs. The study also applied the MGA-PLS analysis permutation to test the effect of gender and qualification being studied. This study is part of building an informative strategy of enhancing tourism and hospitality curricula at a fairly new Department of Tourism and Hospitality Management at a young Manicaland State University of Applied Sciences. It is certain that students are chief stakeholders in Higher Education Institutions (HEI), they are the customers and evaluators of the WRL attachment experience. So, it is critical to appreciate students' satisfaction with WRL and understand the factors that affect WRL. Preceding articles embrace the perceptions and expectations of tourism and hospitality students pertaining to their WRL attachments, disconformity of the perceptions and expectations of WRL, and industrial

supervisor assessments of tourism and hospitality WRL students (Deen & Tichaawa, 2016; Faruk & Sevket, 2014; Hussien & Lopa, 2018; Ruhanen, Robinson, & Breakey, 2013; Taylor & Geldenhuys, 2019; Tuzon, 2016). However, Taylor and Geldenhuys (2019) measured tourism students' satisfaction with WRL learning using partial least square (PLS) from one higher education institution which has been stated as the base conceptual model for this study. This study measured tourism students' satisfaction with WRL attachment from six universities and five polytechnics comparing multi-group categories using a two-stage extended Taylor and Geldenhuys (2019) conceptual model (Model A and B) and testing the moderation effect using two-stage PLS.

2. Literature review

The tourism and hospitality industry in Zimbabwe is one of the significant earners of revenue in general and foreign currency in particular. With regards to total global investments, roughly 9% are in the tourism and hospitality industry (WTTC, 2020). In the 2018 Global Tourism Competitive Report Zimbabwe was ranked 128 out of 140 countries (WEF, 2018). Training and development of students in the tourism industry is one of the strategies considered to improve the competitive position of Zimbabwe's tourism and travel industry through Technical Vocational Education and Training (TVET) - colleges and Higher Education Institutions (HEI) – universities (Shereni, 2019). In Zimbabwe, universities and colleges are providers for the workforce in the tourism industry. TVET provides manpower with operational skills focused on immediate needs and HEI provides strategic managers with technological skills and foresight. The HEI enrolls students normally with 5 ordinary level passes including Mathematics and English and at least two subjects at Advanced level with passes and special entry of work experience. The TVET student's enrolment is five ordinary level passes for diploma and literacy for certificates. At least 200 students graduate with bachelors in tourism and hospitality management (MSU, 2018; UZ, 2018; Giang & Mohammad, 2014; CUT, 2019) and 300 with certificates and diplomas from vocational training colleges and polytechnic colleges (HEXCO, 2018), the students' experiences with WRL determine their future carrier. All the graduates go through WRL as part of their curricula and they compete for available positions in the developing industry with low demand for expert labor and slow expansion (Mehta, Felipe, Quising, & Camingue, 2013). The students go for WRL at different stages in their studies those pursuing bachelors normally go for attachment in the third year under conventional studies, those doing diplomas or certificates usually go for attachment during the third term or second year of their studies. The minimum WRL attachment duration under a bachelor's is eight months (MSU, 2018). In Zimbabwe higher education institution WRL is compulsory and examinable, strongly engrained in the Higher Education Qualifications Framework (HEQF) (ZIMCHE, 2019).

Work-related learning (WRL), Workplace-based learning (WPBL), internship, experiential learning, are terms used interchangeably to define different educational programs that fit in classroom academic theory learning and industry practical experience (Atkinson, Rizzetti, & Smith, 2021; Fong, Lee, Luk, & Law, 2014). Higher education institutions are now taking WRL as a core part of their teaching and WRL is extending beyond the workplace physical environment

to professional preparation (Smith, 2012). The WRL attachment is progressively increasing the students, confidence level, work knowledge, and execution which enables them to be more confident in their studies and profession when coming back from WRL attachment and when going to look for employment (Sahak, Reza, & Yunus, 2017; Le, Klieve, & McDonald, 2018). WRL attachment practices assist in nurturing students together with interactive skills, problem-solving, confidence, and job skills (Ruslan, Mohamad, & Juhari, 2021). The academic supervisor and industrial supervisor are responsible for mentoring the student during the WRL attachment period, assessing the student's progress in grasping real practical work procedures, and giving feedback to the student and institution (MSU, 2015). Students go for WRL attachments with certain expectations and after WRL attachment they hold certain perceptions and they want the good attachment to get skills and experience for them to be professionals (Smith, 2012).

Smith (2012) defined expectations as how people perceive before experience and perceptions as to how people think after the experience. Parasuraman, Zeithaml, & Berry (1990) modeled the relationship between expectations and perceptions to use in measuring satisfaction levels and product quality. From studies done among law students, tourism and hospitality students, informatics and cybernetics students in South Korea, Hong Kong, and Romania respectively students expectations scores were higher than students perception scores on WRL attachment (Lam & Ching, 2007; Ross & Elechi, 2002; Narayanan, Olk, & Fukami, 2010). Factors that affected students' satisfaction with WRL attachment across the industries were misuse of students during WRL attachment, low levels of pay, high labor turnover, poor organization image, lack of supervisor support and not getting a full-time job offer. From the literature there are many variables that affect student satisfaction with WRL attachment and a summary of findings on few studies in the hospitality and tourism industry is presented to corroborate the present study's conceptual model.

Tarmazi, Jumain, Idris, and Tan (2017), surveyed 93 respondents to determine the association between expectation and perceptions towards the satisfaction of students after WRL attachment. The data were analyzed using Pearson Correlation Analysis (PCA) and revealed that expectations and perceptions have a significant positive relationship with students' satisfaction. Ruslan, Mohamad, and Juhari (2021) reviewed the factors that affect WRL attachment satisfaction in the hospitality industry from a number of articles and categorized the factors into five groupings: job characteristics, contextual factors, individual factors, organizational environment, and career potential. Farmaki (2018) confirmed these grouping when he explored the effect of internship experiences on the career intent of hospitality and tourism management students.

In Ghana Owusu-Mintah and Kissi (2012) observed that the main factor affecting WRL attachment among tourism and hospitality polytechnic students was the challenge to find the right WRL attachment that imparts the student with the right skills. They recommended greater collaboration between the HEI and the industry. Deen and Tichaawa (2016) study on hospitality management students expectation of WRL showed that students were motivated by their career choices to go on WRL attachment and what killed the eagerness during WRL attachment was lack of financial resources, transport costs, change in lifestyle, and change in the area of residence.

Hussien and Lopa (2018) study revealed that feedback, university supervisor support, autonomy, flexible working hours, academic preparedness, student self initiatives, skills variety, and location are key factors playing a role towards tourism students' satisfaction with WRL attachment in the USA. Also, in Greece Marinakou and Giousmpasoglou (2020) noted that hospitality students' satisfaction with WRL was favorable due to professional working environment, social interaction with staff, good working conditions, and the learning experience. What contributed to dissatisfaction was raised as long working hours, poor pay, and poor supervision.

Kamuzunyu (2010) exposed that lack of WRL orientation, inadequate support to students on WRL attachment, inadequate funds and time given to WRL attachment visits, poor supervision by the industrial supervisor are some of the factors compromising WRL attachment. He recommended that WRL attachment should be planned by HEI allocating enough funds to student WRL and maintain an open relationship with industry and students.

Ko (2008) investigated the factors associated with hospitality students' satisfaction with WRL attachment and the relationships between job satisfaction, training, and confidence about future careers in order to provide schools and industries with suggestions regarding course development and training during WRL attachment. Regression analysis showed that training satisfaction played a positive role as a predictor of students' satisfaction with WRL and confidence about future careers. Administration and learning factors in connection with students' satisfaction during the WRL were found to be significant predictors of their confidence about future careers, but the environment, supervision, and interpersonal relations were not. Tuzon (2016) measured the level of hospitality students' satisfaction on WRL attachment with service provided by their education institution and the industry organization. The study revealed that partnerships between education institutions and industry are key in successful WRL attachment as they both affect students' satisfaction with WRL attachment.

3. Conceptual model

In marketing and quality management literature customer satisfaction is measured by comparing initial customer expectations versus perceptions of the real customer experience (Kotler & Armstrong, 2012; Basera & Makandwa, 2020). Kotler and Armstrong (2012) came up with disconfirmation of expectation, which can be negative or positive as a descriptor of the difference between expectations and perceived actual experience. Positive disconfirmation means satisfaction; that is when the perceived actual experience is higher than expectation and negative disconfirmation means dissatisfaction; that is when the perceived actual experience is less than expected (Parasuraman, Zeithaml, & Berry, 1990).

This research analyses the differences (gap) between the expectations and perception of tourism students' satisfaction with WRL; the expectations of tourism students preceding WRL placement and perceptions of tourism students' experiences at the time of finishing the WRL placement. The study used a two-stage extended conceptual model developed by Taylor and Geldenhuys (2019) (Model A and B) when they used partial least squares (PLS) to measure tourism students' satisfaction with WRL at the Tshwane University of Technology in South Africa. The original conceptual model used 24 manifest variables grouped into three categories – latent variables

(WRL perceptions, Satisfaction with WRL, WRL expectations). The researchers extended the manifest variables to 32 and also changed the wording in some of the variables so as to suit the context of the study.
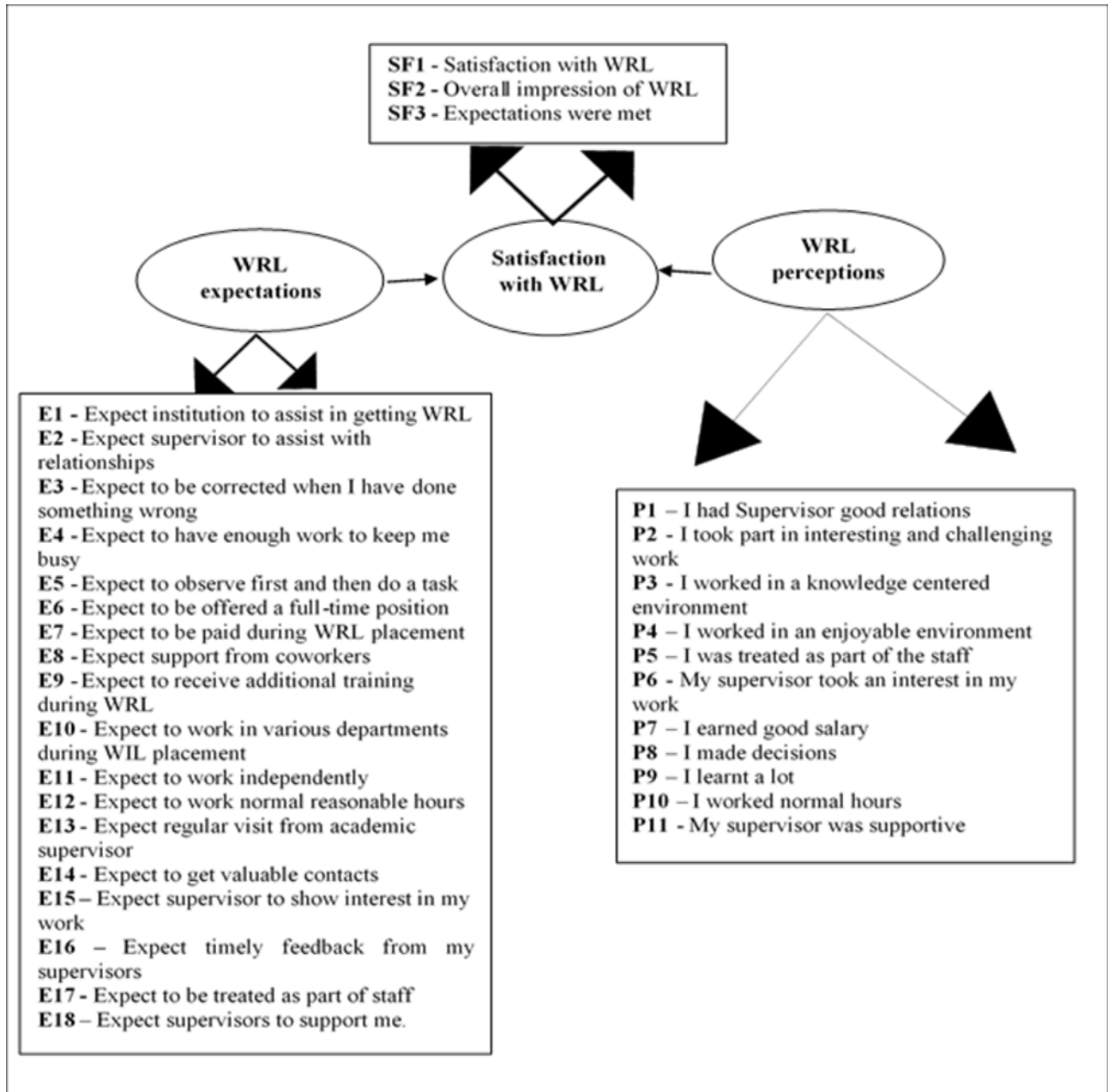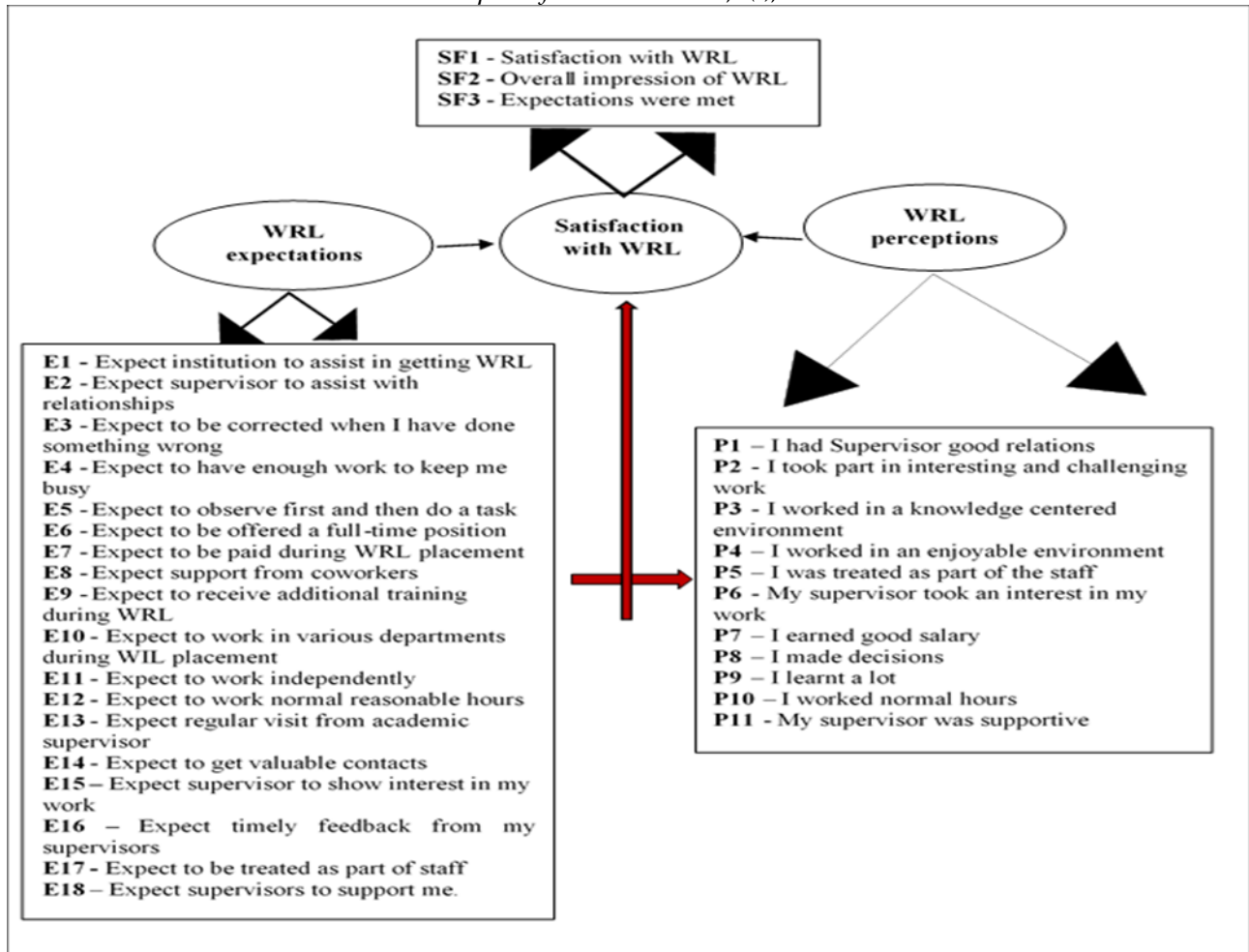

Fig.1: Conceptual Model A

Fig. 2: Conceptual Model B

4. Hypotheses to be tested

H_1: There is a significant relationship between expectation and student satisfaction on work-related learning(WRL).

H_2: There is a significant relationship between Perceptions and student satisfaction on work-related learning(WRL).

The conceptual framework Model B has hypothesized that Expectations has an effect on Perceptions, therefore a third hypothesis is formulated as:

H_3: There is a significant relationship between Expectations and Perceptions for students on work-related learning(WRL).

The qualitative categorical variables gender (male or female) and qualification studied (Bachelor or Diploma) are used as grouping variables.

$H_4(a)$: The parameters are not significantly different on the effect of Expectation on Student satisfaction between males and females.

$H_4(b)$: The parameters are not significantly different on the effect of Perceptions on Student satisfaction between males and females.

H_4**(c):** The parameters are not significantly different on the effect of Expectation on perceptions between males and females.

H_5**(a):** The parameters are not significantly different on the effect of Expectation on Student satisfaction between students pursuing bachelor in Tourism and Hospitality and those doing diplomas.

H_5**(b):** The parameters are not significantly different on of Perceptions on Student satisfaction between students pursuing bachelor in Tourism and those doing diplomas.

H_5**(c):** The parameters are not significantly different on of Expectation on Perceptions between students pursuing bachelor in Tourism and those doing diplomas.

In the present research, it is hypothesized that the Expectation construct has a moderating effect on the Perceptions to Student Satisfaction relationship.

H_6**:** Expectation has a moderating effect on the relationship between Perceptions and student Satisfaction (Inter construct has a significant impact on satisfaction).

Although there appear no empirical studies in relation to the moderating effect of expectations on student perception and satisfaction with WRL, it is expected that such an effect occurs in the Zimbabwean context. It was hypothesized in this research that Student Expectations moderates the relationship between student perceptions and student satisfaction with WRL in tourism higher education institutions. The role of gender in education with regard to the similarities and differences between men and women, and their pedagogical implications has been the subject of controversial debate since the 70s. Gender is included in most studies involving demographic variables because males and females are regarded as possessing unique personalities and characteristics (Testa & Mueller, 2009). Over the years research has been noting differences between men and women influencing pedagogical issues, for example, gender differences in communicative style and approach to study (Robson, Francis, & Read, 2004), gender effects in levels of achievement motivations for subjects (Tempelaar, Vander - Loeff, Gijselaers, & Nijhuis, 2011), whether the impact of social integration on subsequent institutional commitment is conditioned by gender (Tempelaar, Vander - Loeff, Gijselaers, & Nijhuis, 2011).

There appear no empirical studies in relation to the moderating effect of gender on satisfaction with WRL among tourism students related literature reveals that gender, personality, and nationality have been found to regulate student satisfaction (Chen & Shen, 2012) and career intention (Lugosi & Jameson, 2017). When examining the moderating effects of students' characteristics on the relationship between perceived quality and satisfaction with University Services Padlee and Zulkiffli (2016) found that gender has a moderating effect on the relationship between overall satisfaction and behavioral intentions. The analysis revealed that students' characteristics had a significant impact as a moderator. This study considers gender as a significant factor influencing student satisfaction with WRL in the hospitality industry. Given the potential satisfaction difference according to gender, the study explores the potential differences emanating from gender on student expectations, perceptions, and satisfaction with WRL in hospitality students.

5. Methodology

A total of 488 students from six universities, one school of tourism and hospitality, and 5 polytechnic institutes were surveyed during Work Related Learning (WRL). Analysis of results was done using both SPSS 23 and R 4.0.3. The questionnaire and constructs were adapted from a two-stage extended conceptual model proposed by Taylor and Geldenhuys (2019) (Model A and B) with some additions on manifest variables/indicators on both expectation and perception construct (expectation indicators increased from 14 to 18) and (perceptions indicator increased from 8 to 11) whilst the student satisfaction construct remained with three indicators. The whole population was surveyed in order to capture broader experiences from the different types of industries that the students are attached to from hotels, travel agents, tour guiding, safaris, national parks, tourism, and hospitality organizations, restaurants, and others. The research used both the two stages extended conceptual framework models i.e model A and model B. In Model B, expectations are associated with perceptions. All items used a 5 point Likert scale using 1 to 5 indicating strongly disagree to strongly agree respectively. The instrument was given to the lecturers in charge of WRL at respective institutes and the students completed the questionnaire prior to going for WRL attachment and at the completion of WRL attachment in tourism and hospitality as of January and December 2020 respectively. The analysis applied MGA-PLS to assess group differences based on gender and qualifications being studied. The moderation effects tests employed the Two-Stage PLS to assess the moderation effect of a third variable Inter construct (a product of expectation and perceptions) on student satisfaction.

6. Results

The analysis employed two models: Model A and Model B based on a two-stage extended conceptual model of Taylor and Geldenhuys (2019) whereby each of the constructions Expectations and Perceptions is expected to have an impact on student satisfaction. The constructs Expectation and Perception are assumed not to be related in the conceptual diagram Model A (Figure 1) and in Model B (Figure 2) the construct Expectation has an impact on Perceptions.

The analysis starts by looking at descriptive statistics, followed by Multi Group Analysis-Partial Least Squares (MGA-PLS) for each of the models A and B using categorical variables gender (male or female) and qualification (bachelor or diploma) and lastly by employing the concept of moderating effect in each of the model A and B where it was hypothesized that Expectation moderates perception of Student Satisfaction. The analysis is done using the Two-Stage PLS approach. Statistical software SPSS 23 and R version 4.0.3 were also used.

In the demographic analysis, the research (table 1) has found that the majority of the respondents are from six universities offering tourism and hospitality, with a cumulative percentage of 66.2%, with Varsity 3 having 23.6% respondents. This shows that in Zimbabwe training in Tourism and hospitality is more at Universities than polytechnics. The remainder of the respondents is drawn from the School of hospitality and polytechnics. An analysis by gender has revealed that the majority of the respondents are females (76.4%) showing that most students who enroll for Tourism and Hospitality bachelor or Diploma are females. The study also reveals that most

students go for Work Related Learning(WRL) in the second year or the third year depending on whether one has enrolled for a diploma or bachelor in Tourism and Hospitality.

Table 1: Demographic profile of respondents (n=488)

Demographics of respondents	Frequency	Percent (%)
Gender		
Male	115	23.6
Female	373	76.4
Qualification study		
Bachelor	323	66.2
Diploma	165	33.8
Year of Study		
2nd year	165	33.8
3rd year	323	66.2

5.1 Model A analysis of results

Table 2: Inner model based on the full model

	Estimate	Standard.error	p-value	Signifcance(yes/no)
Intercept	-2.17	0.043	1.00	
Expectation	-0.167	0.045	$2.15*10^{-4}$	Yes
Perceptions	-0.217	0.045	$1.69*10^{-6}$	Yes

The results from table 2 revealed that both Expectations and Perceptions have a negative impact on student satisfaction since both coefficients are negative and all the p-values <0.05 in value. Therefore, both hypotheses 1 and 2 are supported.

The next step of the analysis focused on Multi-Group Analysis using Partial Least Squares (MGA-PLS) using both the parametric approach (based on bootstrap t-test) and the permutation test. The qualitative categorical variables gender (male or female) and qualification studied (Bachelor or Diploma) are used as grouping variables.

Table 3: MGA-PLS tests (permutation test)

	Global	males	females	diff.abs	p-value	Sig.0.05
Based on gender						
EXPECT→ *SATIS*	-0.167	-0.212	-0.328	0.1158	0.287	No
PERCEP→ *SATIS*	-0.217	-0.27	-0.189	0.0810	0.366	No
Based on qualifications studied						
	global	Bachelor	Diploma	diff.abs	p-value	Sig.0.05
EXPECT→ *SATIS*	-0.167	-0.212	-0.328	0.1158	0.3368	No
PERCEP→ *SATIS*	-0.217	-0.27	-0.189	0.0810	0.4158	No

The analysis in table 3 revealed that both expectation and perception have a negative impact on satisfaction individually and there is no significant difference between males and females since

the p-values are all >0.05. In the current study, females have a higher moderating effect on the Expectation → Satisfaction relation (coefficient of 0.328) as compared to males. However, the same study revealed that males have more effect on the Perception to Satisfaction relationship than females (with a coefficient of 0.27 vs 0.189 for females). Consequently, the permutation test of the MGA-PLS test found no significant differences in both relationships between males and females. Therefore, hypotheses 3a and 3b are both supported.

The analysis in table 3 revealed that both expectation and perception have a negative impact on satisfaction individually and there is no significant difference between those doing a bachelor in Tourism and Hospitality and those doing Diplomas since the p-values are all >0.05. The effect of qualification is same as that of gender with diploma having a more significant effect on student satisfaction relationship, whilst on the other hand bachelor in tourism in tourism have an effect on the perceptions to satisfaction relation. Consequently, the MGA-PLS found no significant differences between those pursuing bachelor's and diploma in tourism and hospitality. Therefore, hypotheses 4a and 4b are both supported.

6.2. Moderation tests on interaction effects based on model A conceptual framework

In the present research, it is hypothesized that the Expectation construct has a moderating effect on the Perceptions to Student Satisfaction relationship. The study employed Two-Stage Path Modelling which has two steps; Stage 1 involves main effects and no interaction terms and Stage 2: Involves taking scores from stage 1 to create interaction terms say and then perform PLS analysis by making use of such scores to generate the third construct. In the present scenario, the third construct is also known as the intermediate variable defined as the product of Expectation and Perceptions (a subset of data frame Scores obtained from stage 1).

The PLS-satisfaction model obtained in stage 1 is the same as in table 2 with both Expectations and Perceptions having a negative and significant effect on student satisfaction. The scores obtained here are the ones employed to generate a data frame to get another construct Inter.

H_5: Expectation has a moderating effect on the relationship between Perceptions and student Satisfaction (the third construct has a significant impact on satisfaction).

The moderating effect test of expectation moderating on the effect of Perceptions on student satisfaction revealed that both expectation and perceptions have a negative effect individually on student satisfaction as shown in Figure 3. However, the construct Intermediate variable (a product of Expectation and Perceptions) has a positive and significant effect on student satisfaction and the bootstrap confidence interval does not include a zero (tables 4 and 5).

Table 4: Moderating effect test based on Two-Stage PLS

	Estimate	Standard. error	p-value	Signif.0.05
EXP→SATIS	-0.172	0.044	$1.31 * 10^{-4}$	Yes
INTER→SATIS	-0.104	0.043	$1.64 * 10^{-2}$	Yes
PERCEP→SATIS	-0.212	0.043	$2.88 * 10^{-6}$	Yes

It can be concluded that the moderating effect of expectation on the relation between Perceptions and student satisfaction is positive (though of small magnitude) and significant and as such hypothesis 5 is supported.

Table 5: Moderating effect test bootstrap values and confidence interval values

	Original	Boot Str value	Standard. error	Per.025	Perc.975
EXP→SATIS	-0.172	-0.174	0.046	-0.264	-0.078
INTER→SATIS	-0.104	0.101	0.040	0.017	0.179
PERCEP→SATIS	-0.212	-0.210	0.043	-0.293	-0.135
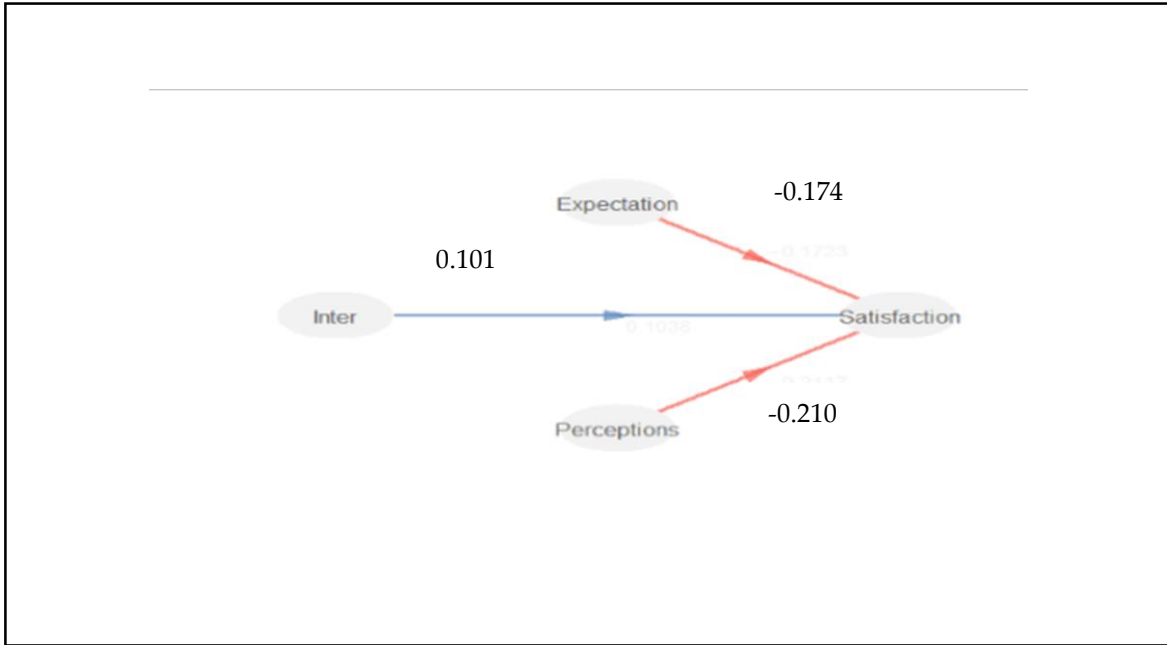
Fig 3: Inner model showing the moderating effect

Both expectation and perception constructs have a negative and significant impact on student satisfaction, though with small magnitude coefficients. The findings support findings by Taylor and Geldenhuys (2019) paper that perceptions have a negative and significant effect on Students' satisfaction but on the other hand contradict the findings of the same authors who found pre-placement expectations as negative and insignificant. The study found that females and those doing diplomas have more effect on the Expectations to satisfaction relationship than males or those doing a bachelor in the same study. In the same study, it was discovered that males and those pursuing bachelor in Tourism and hospitality have a more significant effect than females or those doing diploma on the Perceptions to satisfaction relationship. The study also applied the MGA-PLS analysis permutation to test the effect of gender and qualification being studied. The research found no significant differences between males and females and also no significant differences in both the Expectation →Satisfaction and Perceptions →Satisfaction relationship. The moderating effect test applied to conceptual framework model A using the Two-Stage PLS approach has revealed that a third construct, the Intermediate variable (a product of construct Perceptions and Expectation) has a positive impact on student satisfaction (as in table 5 and fig 3). In this case, since it has been hypothesized that the construct expectation moderates the perception to Satisfaction relationship, then the hypotheses of moderation effect are supported. The moderating effect results have some practical and theoretical implications in that there is a

need for both perceptions and expectation construct to be improved by both players that include the student on work-related learning, the employers, and the institutions of learning.

4.2 Model B analysis of results

The second stage modified conceptual framework tension of the Taylor and Geldenhuys (2019) - Model B, it is hypothesized that there is the relationship between expectation and perceptions (as shown in figure 2 of the conceptual model and figure 4 of inner model connecting constructs in the research)
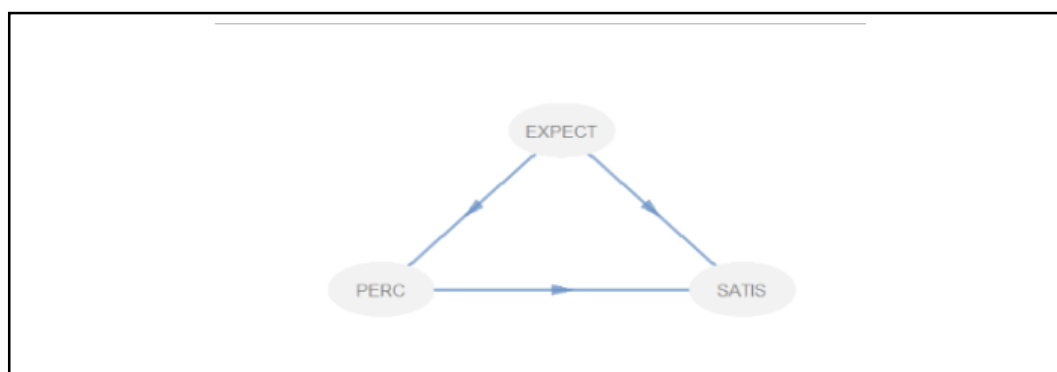

Fig 4: Inner model relating constructs in the modified conceptual framework

The dataset here had three constructs namely expectation (with 16 manifest variables/indicators), Perceptions (11 indicators), and Student satisfaction (3 indicators). Originally there were 18 indicators on expectation construct, but these were reduced to 16 because two of the indicators namely E9: Expect to receive additional training and E13: Expect regular communication from academic supervisor were dropped because of cross-loading problems.

Table 6: Inner model based on full model B

	Estimate	Standard. error	p-value	Significance
Exp →Satis	-0.1096	0.050	0.0286	Yes
Percep →Satis	-0.1158	0.050	0.0208	Yes
Exp →Percep	0.4514	0.04	$7.15*10^{-26}$	Yes

The results from table 6 revealed that both Expectations and Perceptions have a negative impact on student satisfaction since both coefficients are negative and all the p-values <0.05 in value. Therefore, both hypotheses 1 and 2 are supported.

The modified conceptual framework hypothesis has revealed that there is a positive relationship between Expectation and Perception with a coefficient of 0.45 and a highly significant p-value of $7.15*10^{-26}$, therefore hypothesis 3 is supported.

The analysis applied the permutation test to test for Multi-Group Analysis-Partial Least Squares (MGA-PLS) to test for group differences based on gender or qualification being studied. The permutation (sampling without replacement) test was used because of the following reasons: It is a distribution-free test that does not rely on a parametric test. It gives very accurate p-values irrespective of the shape and size of the population (provided enough permutations are used)

and it does not require specific population shapes such as normality. Most real-life data sets are less symmetric and skewed and the size of groups are different. (Gaston Sanchez, 2013).

The qualitative categorical variables gender (male or female) and qualification studied (Bachelor or Diploma) are used as grouping variables.

Table 7: MGA-PLS tests (permutation test)

Based on gender						
	Global	males	Females	diff.abs	p-value	Sig.0.05
EXPECT→ $SATIS$	-0.110	0.055	-0.107	0.162	0.307	no
PERCEP→ $SATIS$	-0.116	0.382	-0.127	0.509	0.020	yes
EXPEC →PERC	0.451	0.435	0.485	0.049	0.644	no
Based on qualification study						
	Global	bachelor	diploma	diff.abs	p-value	Sig.0.05
EXPECT→ $SATIS$	-0.111	-0.100	-0.222	0.122	0.238	no
PERCEP→ $SATIS$	-0.116	-0.122	-0.149	0.027	0.753	no
EXP →PERC	0.451	0.475	0.504	0.029	0.812	no

The analysis in table 7 revealed that both expectation and perception have a negative impact on satisfaction individually. The relationship between perceptions to student satisfaction is significant between males and females, males have a higher positive coefficient of 0.3822 as compared to females with a negative perception. There are many reasons that can lead to female students being more dissatisfied than males which include workplace sexual harassment, tiresome work among many other reasons. However, the Expectation of student satisfaction is not significantly different between males and females in the study since p-value >0.05. Also, the modified conceptual framework had hypothesized a relationship between expectation and satisfaction which is positive, for both males and females with high coefficients. However, there are no significant differences between males and females on the expectation to perception hypothesis. Consequently, the permutation test of the MGA-PLS test found no significant differences in both relationships between males and females on the expectation to satisfaction and expectation to perceptions relationships. Therefore, hypotheses 4a and 4c are both supported. On the other hand, the MGA-PLS permutation tests found significant differences between males and females on the Perceptions to student satisfaction relationship, though negative. Therefore, hypothesis 4b is not supported and statistically, it can be concluded that there are significant differences between males and females on perceptions to satisfaction relationship.

The analysis in table 7 revealed that both expectation and perception have a negative impact on satisfaction individually and there is no significant difference between those doing a bachelor in Tourism and Hospitality and those doing Diplomas since the p-values are all >0.05. The effect of qualification is same as that of gender with diploma having a more significant effect on student satisfaction relationship, whilst on the other hand diploma in tourism affects the perceptions to satisfaction relation. The relationship between expectation and perception is positive, however, there are no significant differences between those doing bachelor and diploma in Tourism and hospitality management. Consequently, the MGA-PLS found no significant differences between those pursuing bachelor's and diploma in tourism and hospitality. Therefore, hypotheses 5a, 5b,

and 5c are both supported. Figures 5 and 6 show differences in path coefficients by gender and qualification studied respectively on relationships between the three constructs.
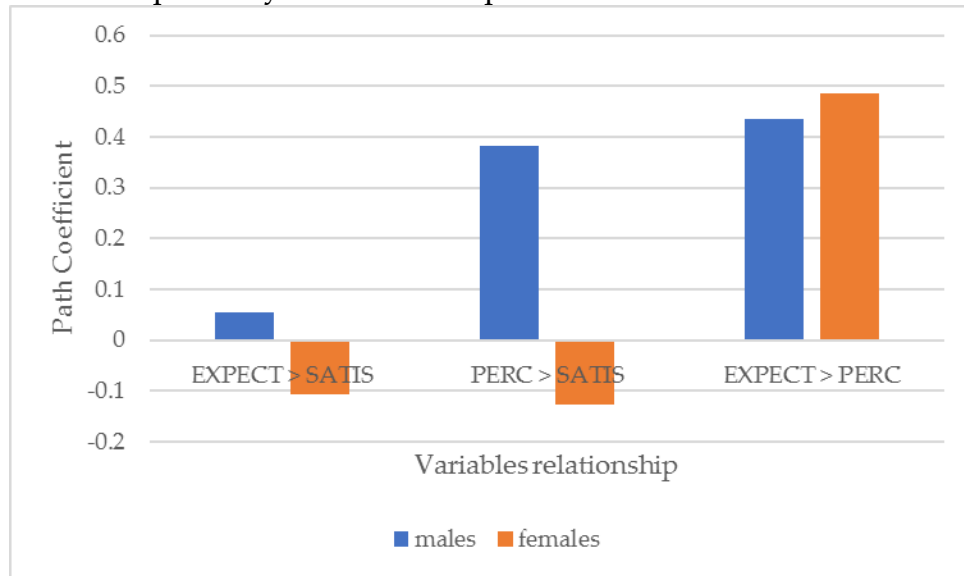

Fig 5: **Bar plot of path coefficient between male and female students**
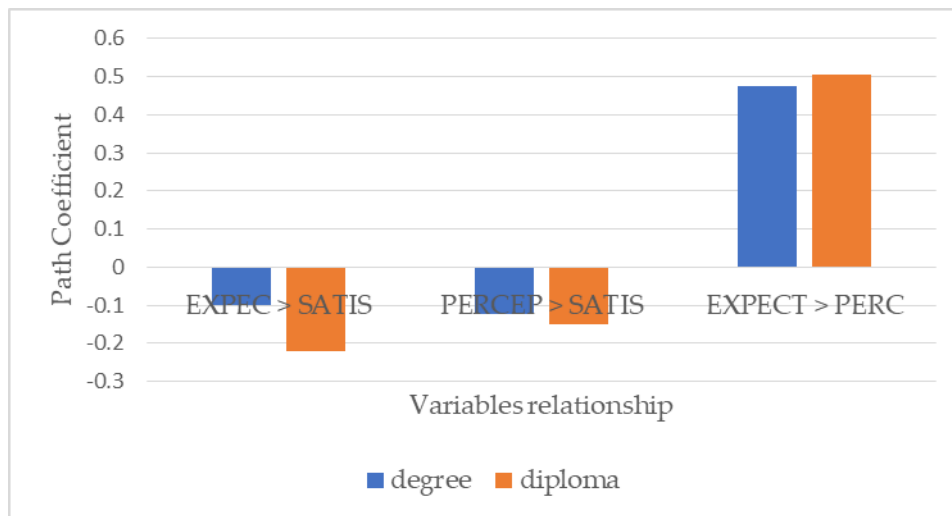

Fig 6: Bar plot of path coefficient between Bachelor and Diploma qualification

Moderation (interaction effects) tests using the Two-stage PLS method for Model B

The modified conceptual framework model has also hypothesized that the expectation construct moderates the perceptions to student satisfaction relationship.

In the present scenario, the third construct is called Intermediate construct/variable/ product of Expectation and Perceptions (a subset of data frame Scores obtained from stage 1, main constructs/ PLS). The PLS-satisfaction model obtained in stage 1 is the same as in table 7 with both

Expectations and Perceptions having a negative and significant effect on student satisfaction whilst expectation has a positive and significant effect on perceptions. The scores obtained here are the ones employed to generate a data frame to get another construct Inter.

Table 8: Moderating effect test based on Two-Stage PLS

	Estimate	Standard. error	p-value	Signif.0.05
EXP→SATIS	-0.115	0.05	0.0213	Yes
EXP→ PERC	0.4514	0.04	$7.15*10^{-26}$	Yes
INTER→SATIS	0.07875	0.045	0.0823	No
PERCEP→SATIS	-0.1267	0.05	0.01196	Yes

Table 9: Moderating effect test bootstrap values and confidence interval values

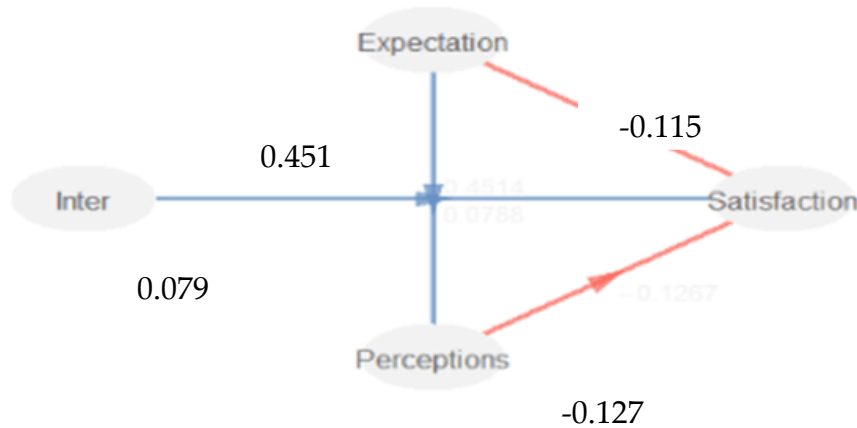|	Original	Mean. Boot	Std.Err	Per.025	Perc.975
EXP→SATIS	-0.115	0.452	0.038	0.377	0.520
EXP→ PERC	0.451	-0.118	0.047	-0.208	-0.021
INTER→SATIS	0.079	0.081	0.045	-0.004	0.169
PERCEP→SATIS	-0.127	-0.120	0.046	-0.207	-0.028

Fig 7: Inner model (moderating effects) with path coefficients

The moderating effect test of expectation moderating on the effect of Perceptions on student satisfaction revealed that both expectation and perceptions have a negative effect individually on student satisfaction (bootstrap confidence intervals do not contain zero). However, the construct Inter (a product of Expectation and Perceptions) has a positive and insignificant effect on student satisfaction and the bootstrap confidence interval does include a zero (tables 8 and 9 and figure 7). It can be concluded that the moderating effect of expectation on the relation between

Perceptions and student satisfaction is positive (though of small magnitude) and insignificant and as such hypothesis 6 is not supported.

Both expectation and perception constructs have a negative and significant impact on student satisfaction, though with small magnitudes coefficients. The findings support findings by Taylor and Geldenhuys (2019) paper that Perceptions have a negative and significant effect on Student satisfaction but on the other hand contradict the findings of the same authors who found preplacement expectations as negative and insignificant. The study applied the MGA-PLS analysis permutation to test the effect of gender and qualification being studied. The research found only significant differences between males and females on the Perceptions →Satisfaction relationship. There were no significant relationships between males and females in the expectation → satisfaction relationship. The MGA-PLS permutation found no significant differences based on bachelor or diploma qualification being studied.

The moderating effect test applied to modified conceptual framework model B using the Two-Stage PLS approach has revealed that a third construct, Intermediate (a product of construct Perceptions and Expectation) has a positive impact and insignificant on student satisfaction (as in table 9 and fig 7). In this case, since it has been hypothesized that the construct expectation moderates the perception to Satisfaction relationship, then the hypotheses of moderation effect are not supported.

7. Conclusion and recommendations

The research used two models (models A and B) based on a two-stage modified conceptual framework proposed by Taylor and Geldenhuys (2019) inking expectation and perceptions constructs. The study also applied the MGA-PLS analysis permutation to test the effect of gender and qualification being studied. The research found no significant differences between males and females and also no significant differences in both Expectation →Satisfaction and Perceptions →Satisfaction relationship and also no significant differences in relations based on qualification in model A. However, the study found significant differences between males and females in the perceptions → satisfaction relationship based on the modified conceptual framework of model B. The MGSA-PLS result in fact revealed that males have a positive and significant effect on perceptions → satisfaction relationship as opposed to a negative and insignificant effect for females. There were no significant differences between those pursuing bachelor or diploma in tourism and hospitality on student satisfaction in both models A and B. The moderating effect test applied to conceptual framework model A using the Two-Stage PLS approach has revealed that a third construct, intermediate (a product of construct Perceptions and Expectation) has a positive impact on student satisfaction. In this case, since it has been hypothesized that the construct expectation moderates on the perception to Satisfaction relationship, then the hypotheses of moderation effect is supported in model A. The moderating effect results have some practical and theoretical implications in that there is a need for both perceptions and expectation construct to be improved by both players that include the student on work-related learning, the employers, and the institutions of learning. However, the Two-Stage PLS approach has revealed that a third construct, Inter (a product of construct Perceptions and Expectation) has

a positive impact and insignificant on student satisfaction based on the modified conceptual framework of model B. Based on analysis of MGA-PLS and moderation effects tests the following recommendations may work in the expectations, perceptions, and student satisfaction relation matrix: continuous monitoring of WRL programs, regular communication with hospitality organizations, students intending to go for WRL to prepare for their WRL by developing the necessary skills and competencies necessary for the tourism and hospitality sector. Collaboration of hospitality industry players and academics in curriculum design will allow professionals to share the industry's expectations of students' skills and knowledge they require; while they are also supposed to develop an understanding of the learning process and importance of the learning experience to students' satisfaction (Chang and Hsu, 2010; Lee and Chao, 2013).

8. Limitations of the study and direction for future research

The study focused on student expectations, perceptions, and satisfaction. However, future research may focus on employers' expectations and perceptions of WRL and compare them with the findings of this study to improve the organization of WRL programs. Although the sample included students from different institutions did not look at the types of hospitality organizations where students did their WRL, future research can include such information as there could be potential differences between students attached at well-known reputable hotels and those attached to low-ranking hotels. Farnaki (2018) highlighted that working at well-known and well-organized hotels may improve student's employability, increase contacts with the industry and enhance student's resumes. The PLS methodology assumed that responses in the data are more or less homogeneous which in reality is not the case. There is a need to factor in the heterogeneity of responses and then apply Response Based Unit Segmentation-Partial Least Squares (REBUS-PLS).

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