

NONLINEAR EFFECTS OF EMPLOYEE ENGAGEMENT AND SATISFACTION ON TURNOVER INTENTION

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Purpose: To advance our understanding of the relationships between employee engagement, satisfaction, and turnover intention beyond their known linear functions by providing a set of significant empirical evidence on nonlinear functions including quadratic, cubic, and interactive effects.

Design/methodology/approach: Employed four 2 x 2 between-subjects experiments sampling 640 hospitality sales professionals through online data collection methods. Employee engagement and employee satisfaction were examined in disaggregation into personal and organizational dimensions. Residual regression models controlling for age and gender as covariates were the main approaches to analyzing data for nonlinear effects.

Findings: Both employee engagement and employee satisfaction consistently have significant negative quadratic and positive cubic effects on employees' turnover intention. Employee engagement and employee satisfaction have a negative interaction effect—i.e., complementing each other—on turnover intention such that the effect is more pronounced at higher levels than lower levels of employee engagement and satisfaction.

Practical implications: Organizations need to understand some threshold phenomena that may exist in the widely believed linear effects of employee engagement and satisfaction on turnover intention. Doing so may help allocate resources more effectively for employee engagement and satisfaction.

Originality/value: Newly examined the nonlinear as well as interactive nature of the relationships between employee engagement and turnover intention, and employee satisfaction and turnover intention to expand our understanding of these relationships beyond the known linearity and add new empirical evidence to the literature.

KEYWORDS: Employee Engagement, Employee Satisfaction, Nonlinear (curvilinear) Effect, Interaction Effect, Turnover Intention

1. INTRODUCTION

Employee turnover rates continue to be high and critical in the U.S. hospitality industry (Liu-Lastres *et al.*, 2022). According to the U.S. Bureau of Labor Statistics (2021), the leisure and hospitality sector has recorded an industry average turnover rate of 130.5 percent in 2020, and this figure is larger than twice the average turnover rate of 57.3 percent recorded in the same year for all U.S. industries. The hospitality industry particularly seems to have suffered the impact of COVID-19, because the turnover rate jumped 165 percent between 2019 and 2020 after following year-to-year variations of less than 10 percent over the previous five years (U.S. Bureau of Labor Statistics, 2021). High turnover rates burden companies financially, in addition to damaging organizational cultures and customer relationships, as the cost of replacing an individual employee can range from one-half to two times the employee's annual salary; voluntary turnover costs U.S. businesses \$1 trillion every year (McFeely and Wigert, 2019).

Researchers have endeavored to determine the main causes of employee turnover (or turnover intention) in various industries. Recent meta-analytic studies reveal many such turnover predictors. Reviewing 101 turnover studies conducted in the U.S during the 1998-2018 period, for example, Ozkan *et al.* (2020) identified job satisfaction, organizational commitment, and empowerment as three key antecedents of turnover. Similar research efforts in the hospitality industry also found several key predictors of employee turnover; negative predictors included, for example, job satisfaction, organizational commitment, work engagement, performance, leadership, and organizational support, while positive predictors consisted of burnout, job stress, role conflicts, emotional labor, and organizational politics (Han, 2020; Park and Min, 2020). Although these antecedents received selective attention in different investigations, employee satisfaction and engagement appeared as the two strongest predictors of turnover in meta-analyses (Choi and Kim, 2016; Kim and Kao, 2014).

Despite the considerable volume of extant research on the relationship of turnover to employee satisfaction and engagement, the literature is limited in shedding light on the nature of such relationship. While most previous studies focused on the first-order linear relationship (e.g., Wang *et al.*, 2020), relatively lacking are studies providing insights into how the relationship strength changes across the various levels of employee satisfaction and engagement inputs. If occurring, the change in the relationship strength has important financial and cultural implications for organizations investing in employee retention. Although some organizational researchers attempted to show the presence of nonlinear relationships in different contexts such as work engagement vs. turnover (Caesens *et al.*, 2016), job tension vs. turnover intent, value attainment, and job satisfaction (Zivnuska *et al.*, 2002), and supervisor and coworker support vs. employee service recovery performance and helping behaviors (Pasamehmetoglu *et al.*, 2017), much additional research is necessary to provide a converging set of evidence on the potential nonlinear relationship between turnover and employee satisfaction/engagement. Human psychology to quit an organization may not operate on straight-line planes alone.

Research on the possible nonlinear relationships between turnover and its two key predictors is sparse and, hence, both the literature and industry practice could be enriched with studies reporting evidence on nonlinear relationships. The abundance of turnover studies is still silent on whether the satisfaction/engagement–turnover linkage is not only linear (i.e., straight line) but also nonlinear (i.e., U-shaped and/or S-shaped). This is particularly true in the hospitality literature where few turnover studies examined the nonlinearity possibilities of the relationships. In the presence of nonlinearities in the relationships predicting employee turnover, implications and suggestions for organizations' retention strategies are to be significantly

different from those relying only on the linear relationship assumption. Moreover, depending on whether the nonlinearity is quadratic (i.e., U-shaped) or cubic (i.e., S-shaped), strategy implications are to be further different. That is, while a straight line defines the X-Y relationship to be constant, a U-shaped line implies an exponential or accelerating relationship strength and an S-shape a diminishing or phasing-down relationship. Accordingly, both the U- and S-shaped relationships, if existing, require different resource allocation strategies for optimal outcomes.

The purpose of this study is to fill a gap in the hospitality turnover literature by reporting a set of empirical evidence on the nonlinear relationships of turnover intention to employee engagement (EE) and employee satisfaction (ES). By doing so, this study attempts to contribute to the industry practice as well as the turnover literature, both general and of hospitality, in several ways. First, this study expands the extant literature on the EE/ES-turnover relationship by taking a deeper look into the relationship's nonlinearities beyond the widely reported linear relationship. Second, the same investigation into nonlinearities is conducted at a disaggregate level of EE and ES, because the distinction of EE as organizational vs. job- or work-related and ES as organizational vs. job-related has gained wide support in recent studies (Bouckenoghe *et al.*, 2013; Han, 2020; Kwon and Kim, 2020; Laguador *et al.*, 2014; Saks, 2006, 2019). Third, this study provides a more comprehensive look into nonlinearities by examining the moderating, quadratic, and cubic effects within the same framework than most previous studies that selectively examined either moderating or quadratic effects in other employee research contexts (e.g., Caesens *et al.*, 2016; Pasamehmetoglu *et al.*, 2017; Zivnuska *et al.*, 2002). Moreover, studies addressing a potential cubic (an S-curve) effect of the relationship, especially at the disaggregate level, are few, and this is particularly true for hospitality research. With these goals, this study responds to Johnson's (2014) call for additional research on nonlinearities of various organizational behaviors, especially in the sales research context.

2. BACKGROUND AND HYPOTHESES

2.1. Turnover Intention (TI)

Employee TI is a central variable and of critical interest in organizational research as reflected in frequent meta-analysis reports (Alkahtani, 2015; Li *et al.*, 2019). A considerable amount of effort has been devoted to understanding variables increasing or decreasing TI, because turnover is a threat to effective organizations (Ozkan *et al.*, 2020). Turnover can be either voluntary or involuntary (Mathis and Jackson, 2004), and most turnover studies focus on the former as it is of critical interest to management for organizational strategies. TI refers to the employee's awareness, thoughts, and willingness to leave or remain in the current job and organization (Akgunduz and Eryilmaz, 2018; Bouckenoghe *et al.*, 2013) or the employee's subjective expectation of his or her likelihood to leave the organization in the near future (Kaur, 2017). TI serves as a proxy of actual voluntary turnover (Pitts *et al.*, 2011) as it can be viewed as a temporarily unrealized action (i.e., leaving the organization).

The determinants of TI are multidimensional and can be dichotomized into positive (i.e., contributing) and negative (i.e., suppressing). Kim and Kao (2014) provide a comprehensive meta-analysis into individual characteristics, work-related predictors, cultural conditions of the organization, and the employee's attitudes and perceptions that affect TI. Their analyses revealed that key factors contributing to TI included job stress, emotional burnout, depersonalization, safety concerns, role conflict and ambiguity, and job demand, whereas main suppressors consisted of well-being, organizational support, fairness, organizational culture, organizational

and professional engagement, and job satisfaction. Kim and Kim (2021) also meta-analyzed 417 turnover studies (cumulative $n = 106,968$) and identified 1,039 independent variables for TI with an average of 2.49 independent variables examined per study. They found burnout, emotional exhaustion, job stress, and career plateau as main contributors to TI, while organizational commitment, job satisfaction, person-organization fit, and job embeddedness appeared as key suppressors. TI has also been studied extensively as a key dependent variable in hospitality organization research. Park and Min (2020), for example, meta-analyzed 144 hospitality turnover studies and identified 35 antecedents of TI. Another meta review of 35 hospitality turnover studies by Han (2020) identified 23 turnover factors at the individual level and 15 at the organizational level.

Of the numerous predictors of TI, ES and EE emerged as consistently strong predictors across studies and industries. In Kim and Kao's (2014) meta-analysis, for example, job satisfaction ($\rho = -.50$) and organization engagement (-.62) appeared as the two strong suppressors of TI. Ozkan et al. (2020) confirmed the status of ES and EE as two equally strongest predictors of TI (-.52). Kim and Kim's (2021) meta-analysis further supports job satisfaction (-.49), work engagement (-.50), and career engagement (-.51) as stronger suppressors of TI. Consistent with these findings, job satisfaction ($n = 107$) and organizational engagement coupled with career and work engagement ($n = 89$) appear to be most frequently studied independent inhibitors of TI among the 417 studies reviewed by Kim and Kim (2021). Hospitality studies also generally support the importance of ES and EE as most frequently studied and strong predictors of TI (see Dai *et al.*, 2019; Han, 2020; Park and Min, 2020; Wang *et al.*, 2020; Xu and Cao, 2019).

2.2. Employee Engagement (EE)

The concept of EE has drawn attention from both industry practitioners and academic researchers alike (Albrecht *et al.*, 2018). EE refers to an individual's positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli *et al.*, 2002). It reflects the employee's commitment to an organization and consists of cognitive, affective, and behavioral aspects affecting the individual's performance in organizational settings (Saks, 2006). The concept relates closely to performing duties at work (i.e., behavioral), antithesis of burnout (emotional or affective), the employee's attitude toward the organization or job (attitudinal), a cognitive-satisfying approach (cognitive), and multidimensional organizational characteristics (operational) (Kaur, 2017). Thus, the concept is a mental and behavioral construct representing an employee's comprehensive relationship and partnership with an organization. In a general sense, engagement can reflect or induce satisfaction and intention to stay with the organization, while disengagement or no engagement implies a lack of interest, low motivation, dissatisfaction, and a desire to quit.

EE covaries with many other key organizational variables. Factors affecting EE include organizational climate and job resources such as job autonomy, job variety, development opportunities, and supervisor support (Albrecht *et al.*, 2018; Bakker and Xanthopoulou, 2013) and, in addition, job characteristics, rewards and recognition, and procedural/distributive justice (Saks, 2006, 2019). Other determinants include emotional intelligence and social support (Toyama and Mauno, 2017), personal resources and personality (Chen, 2016), empowerment (Bhatnagar, 2012; Maden, 2015), and leadership (Gomes *et al.*, 2015). Various consequences of EE appear in the literature, including performance (Eldor and Harpaz, 2016; Maden, 2015), creativity (Agarwal, 2014; Park *et al.*, 2014; Toyama and Mauno, 2017), affect (Gorgievski and

Bakker, 2014), and turnover (Bhatnagar, 2012). In addition, Kwon and Kim (2020) provides an integrative review of the relationship between EE and innovative behavior.

Researchers distinguished EE further into organizational vs. job (or work) engagement. Organizational engagement (OE) indicates an individual's psychological presentation regarding his/her role in the organization (Saks, 2006), while job engagement (JE) refers to an individual's favorable attitude toward his/her work and job (Bailey *et al.*, 2017; Shuck, 2011). This distinction allows a possible situation that an employee may be highly committed to what he/she does in his/her position, even if he/she does not necessarily care about the organization he/she works for, or vice versa. A sales professional may enjoy and do his/her best in selling more for a larger commission while minimizing his/her engagement with other organizational activities (to save time and effort for her sales performance). Of course, an ideal situation is that the employee likes both the job and organization equally. Although the two types of engagement may be contextually different, researchers commonly conceptualized them as inversely related to TI (Saks 2006; Shuck *et al.*, 2017).

Many hospitality studies addressed the impact of EE (e.g., George *et al.*, 2020; Grobelna, 2019). Yeh (2013), for example, reports that employee JE partially mediates the relationship between tourism involvement and job satisfaction, while Grobelna (2019) found that personality and job characteristics exerted significant, positive effects on hotel employees' JE, which in turn positively affected their job performance. The mediating role of employee JE appeared to be significant between work motivation and TI (Bangwal and Tiwari, 2019), between personality and turnover, between leadership and performance (Kaya and Karatepe, 2020), and between psychological capital and satisfaction (Karatepe and Karadas, 2015). Apparently, EE has been conceptualized as a key antecedent of TI in hospitality research as the inverse relationship is intuitive in that turnover typically terminates engagement (Jyoti, 2021). Only when an employee remains with the organization can he or she have an opportunity to engage with the job and/or organization. This inverse relationship between the two variables can be proportional in general although many other variables could affect its nature and strength.

2.3. Employee Satisfaction (ES)

As another central concept in organizational research, ES has received considerable attention through frequent investigations. Some researchers separated ES into organizational vs. job-related. Organizational satisfaction (OS) refers to an employee's overall positive evaluation of his or her emotional state regarding the organization (Laguador *et al.*, 2014), while job satisfaction (JS) indicates an employee's assessment of her psychological state derived from an appraisal of her job or tasks such as day-to-day activities, duties, and relationships with co-workers (Bouckennooghe *et al.*, 2013). Employees may embrace their job even if they are not necessarily happy with the organization they work for, or vice versa. For cases like this, the separation of ES into OS vs. JS seems to make sense although they are not necessarily orthogonal to each other.

The literature documents a wide array of correlates of ES often without distinguishing OS from JS. The sources of ES, for example, include the employee-organization relationship, the employee-supervisor relationship, and the employee-coworker relationship (Alegre *et al.*, 2016). Other sources relate to role ambiguity, role conflict, burnout, socialization, role stress, and autonomy (Yang, 2010). A meta-analysis study indicated that nurses' JS was most strongly associated with stress (-.609) and organizational commitment (.526), while moderately associated variables included communication with supervisor, autonomy, recognition,

routinization, communication with peers, fairness, and locus of control (Blegen, 1993). Resulting from ES could be organizational commitment, organizational citizenship behavior, and turnover (Lee and Chelladurai, 2018).

Hospitality research on ES is also rich. Findings are consistent in that JS related directly to JE (Yeh, 2013), job performance (Grobelna, 2019), organizational commitment (DiPietro *et al.*, 2020; Yao *et al.*, 2019), leadership (Busser *et al.*, 2019;), perceived quality of life (Ahmat *et al.*, 2019), commitment, absenteeism, and TI (Bangwal and Tiwari, 2019; Chen and Wang, 2019; DiPietro *et al.*, 2020; Joung *et al.*, 2018; Yang, 2010). Notable from these studies is employees' OS or JS conceptualized as a key predictor of TI.

2.4. Nonlinear Effects

Besides their linear relationships reviewed in the preceding sections, the relationships of EE and ES with TI may further be characterized as nonlinear. In other words, the linear main effects that have been widely established in the literature may not fully account for the shared variances in the relationship by haphazardly partitioning some useful, systematic information into the residual or error component. Such potential loss of systematic information, if it happens, is neither efficient from a practical standpoint of data usage nor desirable for theoretical precision. Despite the theoretical bases that may support nonlinear relationships, there is a relative paucity of studies evaluating these nonlinear effects in organizational and behavioral research (Johnson, 2014). This is particularly true for the relationship of TI to EE and ES at the disaggregate levels (i.e., organizational vs. job-related). Thus, this study fills the gap by extending the extant turnover research through the methodological framework provided by Johnson (2014).

Nonlinear effects are mathematically represented in quadratic (a U-shaped curve) and/or cubic (an S-shaped curve) terms in polynomial models. Depending on the direction of these nonlinear curves, interpretation of the findings may imply a “dark side of the effect” or “too much of a good thing” (Caesens *et al.*, 2014; Zivnuska *et al.*, 2002). Yet, the opposite direction of an effect is equally possible, giving rise to a “boosting bonus” when a nonlinear S-curve is inverted. In several related investigations, researchers discovered quadratic effects, while studies addressing cubic nonlinearities were rarer. Caesens and colleagues (2014), for example, conducted a polynomial regression analysis to show that Belgian hospital employees' TI was significantly related to their JE not only linearly but also quadratically. That is, as the employees' JE increased, its suppressing effect on their TI diminished significantly, suggesting that resources invested in retention strategies might not produce consistent, positive results over varying levels of JE. This dark side of engagement was also operational in its relationship with Japanese employees' psychological distress and job performance (Shimazu *et al.*, 2018). Harris *et al.* (2005) studied the relationship between leader-member exchange and TI of water management and distribution services employees and found that the relationship was best represented in a U-shape curve.

Studies on the nonlinear effects of ES on TI have relied on theories borrowed from other areas of research. For example, Chen and his colleagues (2011) argued that absolute levels of job satisfaction left much of the systematic variation in TI unexplained and proposed evaluating nonlinear functions of the relationship in application of prospect theory (Kahneman and Tversky, 1979) as well as conservation of resources theory (Hobfoll, 1989). Both theories could be helpful in conceptualizing the asymmetric weights placed by organizations on gains versus losses of resources in that organizations will be more stressed (and thus motivated to save more) about

losing resources than achieving (and thus protecting) gains from invested resources. Prospect theory also helped Jaiswal and Niraj (2011) conceptualize asymmetric nonlinear relationships among ES, loyalty, and TI. In Mohsin, Lengler, and Aguzzoli's work (2015), TI was hypothesized to relate not only linearly but also quadratically to several organizational behaviors such as organizational enthusiasm, organizational loyalty, stimulating work, and job security and earnings. Moreover, researchers recognized that the linearity assumption for the relationship of organizational investments with TI was dysfunctional for many reasons (e.g., Flory *et al.*, 2014), with one being nonlinear. In short, there is no consensus in empirical findings on the exact nature of nonlinear effects in the ES-TI link (Jaiswal and Niraj, 2011). The same is true for the EE-TI link, especially at a disaggregate level and for the cubical nonlinearity due to the lack of empirical research.

Some hospitality studies also questioned nonlinearities in employee behaviors. Pasamehmetoglu *et al.* (2017) studied 243 Turkish front-line restaurant employees and found employees' helping behaviors were related to coworker support only linearly but to supervisor support quadratically. In a study of 270 hotel managers, Zivnuska and colleagues (2002) examined hierarchically the linear, quadratic, and cubic relationships of tension with turnover intent, value attainment, and JS. Their results showed significant linear and quadratic effects, although the cubic effect was not significant. Sturman, Shao, and Katz (2012) proposed a curvilinear (U-shape) relationship between job performance and voluntary turnover and examined how such curvilinear relationship was moderated by cultural differences (i.e., in-group collectivism, power distance, uncertainty avoidance, and performance orientation) between the United State and Switzerland employees. Their data indicated that the performance-turnover relationship was best represented in a quadratic curve and that the quadratic relationship was altered significantly by power distance and uncertainty avoidance. In general, a quadratic, U-shaped relationship means that the effect of one variable on the other gets rapidly stronger when the input-output system is stretched to both extremes (i.e., very low and very high score ranges of the measures), while the functional relationship is relatively weaker in the middle score ranges.

Based on the "first-generation" studies that established the linear relationship between EE/ES and TI, additional "second-generation" studies are needed to evaluate nonlinear effects of both quadratic and cubic natures (Eisenbeiss *et al.*, 2014; Johnson, 2014). In this study, we propose both the quadratic and cubic effects of EE and ES on TI beyond the well-established linear relationships. Studies reviewed above suggested that investment in EE and ES might result in diminishing returns on TI. A diminishing return is typically represented best in an S-shaped curve when both the independent and dependent variables are in a positive relationship; however, since the EE/ES-TI relationships are negative, we should expect an inverted S-curve instead if a diminishing return is tenable. According to prospect theory and conservation of resources theory (see Chen *et al.*, 2011), this functional relationship means that the effects of EE and ES on TI will be linear overall with drastically weakening patterns in the marginal or extreme levels of input (Eisenbeiss *et al.*, 2014). Statistically speaking, the inverted S-curve in this case should consist of statistically significant negative linear (i.e., constant), negative quadratic (i.e., accelerating), and positive cubic (i.e., diminishing or leveling off) functions with multiple inflection points that can be captured in properly specified polynomial models. This inference is consistent with the reasoning given by previous employee studies (e.g., Eisenbeiss *et al.*, 2014), giving rise to the following hypotheses beyond the already well-established linear relationships.

H1a: EE has a negative quadratic effect (i.e., accelerating return) on TI.

- H1b: EE has a positive cubic effect (i.e., diminishing return) on TI.
H2a: ES has a negative quadratic effect on TI.
H2b: ES has a positive cubic effect on TI.

2.5. Interaction Effects

Effects on the dependent variables as conditioned by one or more independent variables are of important theoretical interest. Understanding when and how one variable (or condition) interacts with another provides useful opportunities to advance management practice as well as recalibrate theoretical boundaries. Few studies have addressed possible joint effects of EE and ES on TI, although organizational research recently began to unveil some moderating roles of engagement-like constructs in other contexts (e.g., Bouckenooghe *et al.*, 2013; Ghosh *et al.*, 2015). Johnson's (2014) extensive review of sales research that involved both nonlinear and interaction effects also reveals a scarcity of studies examining EE or ES as moderators. The same is generally true to the hospitality literature, even though some researchers examined in other contexts the moderating effects of supervisor/coworker support on the relationship between error management and service recovery performance as well as helping behaviors (Pasamehmetoglu *et al.*, 2017), abusive supervision between resilience/turnover intention and JE (Dai *et al.*, 2019), and psychological capital between stress and interpersonal citizenship behaviors (Khelifat *et al.* 2021).

Contingency theory, which posits the function of one variable depends on various context factors, provides a general framework for conceptualizing the moderated functions of an effect (Fournier and Mick, 1999). Based on contingency theory, Eisenbeiss *et al.* (2014) introduce *Type I moderators*, which induce functional changes by impacting the underlying comparison standard or the reference point (e.g., firm reputation), and *Type II moderators*, which cause the function to change by altering the interplay of cognitive and affective modes of the target behavior (e.g., level of involvement). Although it is not clear which type of moderator EE is for ES, or vice versa, Type II moderation seems to apply for a reason that EE reflects an individual's comprehensive commitment requiring cognitive, affective, and behavioral reactions (Kaur, 2017).

This study proposes and explores a synergistic interaction between EE and ES toward TI. Logically, an organization will be successful in retaining its employees more when it not only satisfies its employees but also engages them deeply than when it accomplishes only one aspect. Such a joint effect also justifies concurrent organizational investments in both EE and ES, whereas its absence may suggest redirecting resource allocation decisions. If EE and ES each related to TI in an inverted-S function, their joint effect would also be expected to gradually diminish. Yet, this joint effect will be still statistically significant in line with the significant quadratic and cubic functions discussed above, probably because one of the two variables that has a higher inflection point may sustain the joint effect along the curve. This reasoning leads to an expectation of a significant, negative interaction effect between EE and ES on TI and the same expectation should generalize to the two disaggregated EE and ES concepts.

- H3a: OE and OS have a negative, interaction or joint effect on TI, such that the effect becomes stronger at high levels of OE and OS levels than low levels.
H3b: OE and JS have a negative interaction effect on TI, such that the effect becomes stronger at high levels of OE and JS than low levels.

H4a: JE and OS have a negative interaction effect on TI, such that the effect becomes stronger at high levels of JE and OS than low levels.

H4b: JE and JS have a negative interaction effect on TI, such that the effect becomes stronger at high levels of JE and JS than low levels.

3. METHODS

This study consists of four experiments in a survey approach with a national panel of hospitality sales professionals. We chose experiments to ensure that the covariance between the independent and dependent variables covers both the positive and negative engagement and satisfaction situations to maximize the theoretical generality of the linear and nonlinear phenomena this study aimed to analyze. Qualtrics, an experience management company providing services like online survey platforms, EE research, and customer experience improvement, assisted in sampling and data collection based on its national panel of 81,594 sales professionals. All panel members voluntarily participated in our experiments electronically through invited access to a website survey link once they passed three qualifying questions that required them to be directly involved in sales as their primary job responsibility in the hospitality and tourism industry. We assured that Qualtrics followed our sampling guidelines based on the policy of the Institutional Review Board that approved this study. We chose to focus on hospitality sales professionals for several reasons. First, due to high turnover rates and extremely competitive job markets, retention of competent sales professionals is a critical issue to most hospitality organizations (Miller, 2015). Second, the 2020-2021 State of Talent Report by the Hospitality Sales and Marketing Association International (HSMAI) identifies reducing turnover of sales, marketing, and revenue management professionals is one of the top 10 challenges facing the hospitality industry (Wollard, 2022). Third, high turnover rates require a deep understanding of the root causes for better management practices (Miller, 2015). While hospitality sales professionals' turnover rates and their satisfaction are of significant concern to most hospitality organizations (Beck *et al.*, 2006), the reasons linked to EE and ES needed additional research especially for potential nonlinear relationships. As another reason, hospitality sales professionals' high turnover rates may be linked closely to how they are engaged and/or satisfied with both their organization as well as their job (Kraft *et al.*, 2019). Additionally, Johnson (2014) indicates sales research is generally devoid of studies delving into nonlinear and/or interaction (or moderation) relationships and that more research is necessary in these aspects to induce meaningful theoretical and practical contributions.

Each of the four 2 x 2 between-subjects experiments relied on written hypothetical scenarios, followed by questions for manipulation checks, EE, ES, and TI, and the respondent's socio-demographic background. Appendix presents the sample scenarios, manipulation check questions, and measures of the key variables for this study. All four experiments giving the 2 x 2 combinations of disaggregate EE and ES (i.e., high vs. low OE by OS, OE by JS, JE by OS, and JE by JS) were administered simultaneously to the panel by randomly assigning the respondents to each treatment cell. Data collection stopped when each cell size reached 40 complete and qualified responses for a cost reason as well as sample size sufficiency for the purpose of statistical hypothesis tests (VanVoorhis and Morgan, 2007). According to our power analysis for at least 80 percent power level with a medium effect size, the minimum sample size needed per cell for a 2 x 2 factorial experiment was 32 for potentially detecting the proposed moderation effects (McGarvey, 2015). Also, according to G*Power (Faul *et al.*, 2007), the minimum sample size for a 2 x 2 factorial experiment for 80 percent power with a medium effect size was 128

(total). Lastly, we conducted post hoc power analysis and the obtained power was higher than the desired power of 80 percent, indicating the sample sizes for the four studies were sufficient.

Previous studies provided measurement scales adopted for the key variables in this study (see Appendix C). Six items for OE and four items for JE followed Saks (2006). Five items measured OS and four items JS based on Andreoli and Lefkowitz (2009) and Bouckenooghe *et al.* (2013). Wang, Cheng, and Wang (2018) provided four items to measure TI. All these variables were anchored on a 7-point Likert scale, and they demonstrated high internal consistency. The measurement, data collection, and analysis procedures were identical across the four experiments.

A pretest study helped refine the experimental scenarios, manipulation effectiveness, and measurement items. Qualtrics provided a pretest panel of hospitality sales professionals that were excluded in the main experiments. The sample size per experimental cell in this pretest was 15, relatively small for the purpose of gaining insights into the workability of the experimental manipulations and reliabilities of the measures. The pretest assisted in refining wordings for the experimental vignettes and measurement items. The experimental scenarios and questionnaire were also reviewed by four hospitality research experts to double-check the quality of the materials. Furthermore, the scenarios were subjected to a review by two industry professionals to assure the scenarios were realistic. Qualtrics assured the functionality of the study's web links and readability of the web pages on various electronic devices. The pretest took approximately two weeks, while the main studies about five weeks to complete.

This study analyzed the data by using hierarchical residual regression models to estimate the nonlinear effects and two-way factorial analyses of variance (ANOVA) to detect the main and interaction effects. EE, ES, and TI were all multi-item measures and their average scores were used to simplify analyses as each construct achieved a high level of internal consistency and correlations (Thompson, 2003; see Appendix C). For the estimation of nonlinear effects, this study followed Johnson's (2014) generalized equation (1):

$$\text{Turnover intention (TI)} = \alpha + \beta_1 X + \beta_2 X^2 + \beta_3 X^3 + \varepsilon$$

where X is the aggregate value of either EE or ES, α the intercept, β_1 the coefficient for the linear effect, β_2 the coefficient for the quadratic (U-shape, accelerating) effect, β_3 the coefficient for the cubic (S-shape, diminishing) effect, and ε the disturbance. Note that X^2 and X^3 were sequentially partitioned residual values and, hence, they were orthogonal to each other as well as to X , which avoided potential multicollinearity problems. Also, we estimated this model with inclusion of gender and age as common covariates, following Caesens *et al.* (2016) and Zivnuska *et al.* (2002) who used gender and age as covariates for analyzing nonlinear effects in similar contexts.

4. FINDINGS

4.1. Experiment 1

The first experiment was a 2 (OE: high vs. low) x 2 (OS: high vs. low) between-subjects factorial design. Of the 160 participating hospitality sales professionals, 56 (35%) were male, with the median age of 33. Nearly 32 percent had high school or less education. Almost 53 percent reported their annual income of less than \$50,000. The majority (76%) were Caucasian, followed by ten percent African American. Sixty percent were working in non-managerial positions (40% managerial). The number of years in their sales career was less than five years for 52 percent, and five to ten years for 26 percent.

The manipulation was successful. The mean values of the manipulation check question for OE were significantly different between the low and high condition groups ($t = -8.31$; $M_{low} = 2.8$ vs. $M_{high} = 5.3$). Both engagement groups perceived their hypothetical study condition equally realistic ($t = -.37$; $M_{low} = 5.0$ vs. $M_{high} = 5.1$). The manipulation of OS resulted in a significant difference between the low and high OS conditions ($t = -9.02$; $M_{low} = 2.5$ vs. $M_{high} = 5.1$). The realism of the two OS conditions was equally high ($t = -.74$; $M_{low} = 5.0$ vs. $M_{high} = 5.2$).

The four TI items demonstrated high internal consistency ($\alpha = .95$). The sample groups were homogeneous as indicated by the insignificance of Levene's test for the difference of error variances in turnover intention between the two groups. A test for heteroscedasticity was insignificant ($F_{1,158} = 1.55$, $p = .22$), indicating the variance of errors in turnover intention did not depend on the levels of OE or OS. A two-way ANOVA resulted in significant main effects of OE ($F = 21.92$, partial $\eta^2 = .12$) and OS ($F = 46.52$, partial $\eta^2 = .23$), in the expected direction. Table 1 provides relevant summary statistics.

[Table 1]

Discussion. Both OE and OS are significant determinants of TI. These results confirmed in part the established main (linear) effects of EE and ES on TI.

4.2 Experiment 2

Experiment 2 was a 2 (OE: high vs. low) x 2 (JS: high vs. low) between-subjects factorial design. Fifty-six (36.3%) participants were male. The age ranged from 18 to 71, with the median of 31.5. The majority held a four-year college degree (33.8%). Nearly 53 percent were earning less than \$50,000, 21 percent \$50,000 to \$75,000, 23 percent \$75,001 to \$150,000, and the remaining four percent more than \$150,000 per year. Ethnic background included 76.3 percent Caucasians, 8.8 percent Hispanics, 7.5 percent African Americans, and 3.1 percent Asian. About 52 percent had been in the sales career for less than five years, 29 percent for five to 10 years, and the rest for more than 10 years.

Manipulation checks indicated the low and high OE conditions resulted in a significant mean difference ($t = -6.73$; $M_{low} = 2.9$ vs. $M_{high} = 5.1$). Both engagement groups perceived their hypothetical study condition to be equally realistic ($t = -.27$; $M_{low} = 5.1$ vs. $M_{high} = 5.2$). JS was also a successful manipulation ($t = -5.50$; $M_{low} = 3.0$ vs. $M_{high} = 4.7$). The two JS groups perceived the hypothetical situations as equally realistic ($t = -1.73$; $M_{low} = 5.4$ vs. $M_{high} = 4.9$).

The four measures of TI were highly consistent ($\alpha = .93$). The error variance of turnover intention measures was equal across the experimental groups ($p > .05$). The variance of errors in turnover intention did not depend on the levels of OE and JS ($F_{1,158} = .18$, $p = .67$). This homogenous sample provided an adequate basis for hypothesis testing. An ANOVA model revealed significant main effects of OE ($F = 22.65$, $\eta^2 = .13$) and JS ($F = 25.23$, $\eta^2 = .14$). Summary statistics appear in Table 1.

Discussion. As was in Experiment 1, both employees' OE and JS appear to be significant determinants of TI. The Experiment 2 results also supported in part the effects of EE and ES on TI, consistent with the literature.

4.3 Experiment 3

Experiment 3 used a 2 (JE: high vs. low) x 2 (OS: high vs. low) between-subjects factorial design. The participants were 36.3 percent male and 63.7 percent female. The age

ranged from 18 to 73, with the median of 33. Educational levels included 31.3 percent of 4-year college degrees, 30.6 percent of high school or less, 27.5 percent of 2-year associate degrees, and 4.4 percent of master's degrees. About 43 percent reported an annual income of less than \$50,000, 19 percent \$50,000 to \$75,000, 29 percent \$75,001 to \$150,000, and nine percent more than \$150,000. Almost 76 percent were Caucasian, 10 percent Hispanic, seven percent African American, and one percent Asian. The length of their sales career was less than five years for 47.5 percent, five to 10 years for 28.7 percent, 11 to 15 years for 8.1 percent, and the rest for more than 15 years.

The manipulation of JE was successful ($t = -7.18$; $M_{low} = 2.8$ vs. $M_{high} = 5.2$). Both engagement groups perceived their study condition to be equally and highly realistic ($t = .51$; $M_{low} = 5.2$ vs. $M_{high} = 5.1$). The low vs. high OS was also significantly different ($t = -9.31$; $M_{low} = 2.6$ vs. $M_{high} = 5.3$). Both OS groups perceived the scenarios to be equally and highly realistic ($t = -.05$; $M_{low} = 5.2$ vs. $M_{high} = 5.2$).

The reliability of the four TI items was high ($\alpha = .97$). Levene's tests resulted in an insignificant difference of error variance in the TI measures between the two groups ($p > .05$). The error variance in TI did not depend on the levels of either JE or OS ($F_{1,158} = .72$, $p = .40$), indicating the achievement of sample homogeneity. The main effect of JE on TI was significant ($F = 9.09$, $\eta^2 = .06$) and so was that of OS ($F = 67.95$, $\eta^2 = .30$), consistent with the literature (see Table 1).

Discussion. Turnover intention is found to share significant variance with OS and JE. Based on the results of Experiments 1, 2, and 3, it is clear again that both EE and ES suppress TI.

4.4 Experiment 4

Experiment 4 employed a 2 (JE: high vs. low) x 2 (JS: high vs. low) between-subjects factorial design. The participants included 30 percent male, with the median age of 33. Their educational levels were 33.1 percent for high school or less, and 30.6 percent for 4-year college. About 59 percent were earning an annual income of less than \$50,000. They were 75 percent Caucasian. The length of their sales career had been less than five years for 50 percent, followed by five to 10 years for 26 percent.

The manipulation for JE indicated a significant mean difference between the low vs. high conditions, as intended ($t = -7.38$; $M_{low} = 2.9$ vs. $M_{high} = 5.2$). Both JE groups perceived their hypothetical situation to be equally realistic ($t = -.14$; $M_{low} = 5.1$ vs. $M_{high} = 5.1$). The two JS levels also resulted in a significant difference in the mean scores ($t = -7.30$; $M_{low} = 2.7$ vs. $M_{high} = 4.8$). Both JS groups perceived the scenarios to be equally realistic ($t = -.88$; $M_{low} = 5.0$ vs. $M_{high} = 5.2$). These results suggested manipulations were successful in the intended direction.

The four items measuring TI were highly consistent ($\alpha = .95$). The equality of error variance in TI between the treatment levels resulted in a slightly significant difference based on the mean scores (Levene statistic = 3.08, $p = .03$) but not based on the median values (Levene's statistic = 2.51, $p = .06$). Heteroscedasticity was insignificant, indicating that the error variance in TI was independent of the manipulations of either JE or JS ($F_{1,158} = .80$, $p = .37$). The results in Table 1 show significant main effects of JE ($F = 24.85$, $\eta^2 = .14$) and JS ($F = 22.63$, $\eta^2 = .13$), providing empirical support for the relevant effects established in the literature.

Discussion. Both JE and JS exhibit significant main effects on TI. These linear effects are consistent with the existing knowledge.

4.5 Nonlinear Effects

The estimation results of nonlinear effects appear in Table 2. The two covariates, age and gender, exhibited no significance in their effects on TI in all models. All proposed quadratic and cubic functions of EE and ES exhibit statistical significance on TI in the predicted directions. Specifically, OE demonstrates a significant, negative quadratic (-.28) and a significant, positive cubic effect (.50) on TI, in addition to its significant, negative linear effect (-.77). These results support in part H1a and H1b. The quadratic term of JE was significant and negative (-.18), lending support again for H1a. Similarly, the cubic effect of JE on TI was statistically significant and positive (.57), as hypothesized in H1b. These nonlinear effects of JE were in addition to the significant, negative first-order linear effect (-.77). The changes in R^2 suggest that a straight line explains the relationship most, although an S-curve also accounts for a significant additional proportion of the shared variance. Combined, these findings provide empirical support for H1a and H1b.

[Table 2]

ES showed significant, negative quadratic and significant, positive cubic effects on TI, in addition to a significant, negative linear effect (-.81). Specifically, the quadratic effect of OS was significant and negative (-.25), while the cubic effect was significant and positive (.47). The quadratic effect of JS was significant and negative (-.17), while the cubic effect was significant and positive (.51). The changes in R^2 reveal the largest proportion of the shared variance accounted for by the linear relationship, followed by an S-curved relationship and then a U-shaped curve in order. These results converged to supporting H2a and H2b.

Figure 1 plots the summary patterns of the linear and nonlinear relationships between the predicted TI scores and the average raw scores of EE and ES. Note that Figure 1 is representative of the relationships of TI with EE and ES at both the organizational and job levels, as reflected in the consistent magnitudes of the parameter estimates and R^2 values (see Table 2). With reference to Table 2 where the effect sizes of the linear and nonlinear coefficients and their contributions to the amount of variance explained (R^2) are reported, the linear relationship represents the strongest property of the relationship. This corresponds to the largest parameter estimates and R^2 values across the two EE and two ES dimensions. Albeit significant, the quadratic coefficients and their incremental R^2 contributions ($M = 1.4\%$) are relatively small, which is also evident in the visually unclear U-shaped (inverted) component in the summary plot. In contrast, the cubic parameters appear strong across all EE and ES dimensions, consistent with their average contribution (25%) to the amount of shared variance. This inverted S-shaped cubic pattern is pronounced in the plotted data, with the diminishing patterns at the lower (lower left) and higher (upper right) levels of EE and ES.

[Figure 1]

4.6 Interaction Effects

Figure 2 provides visual representations of the interaction effects resulted from the two-way ANOVA models. First, the interaction between OE and OS was significant ($F = 9.88$, $\eta^2 = .06$) in the negative direction (see Figure 2a), lending support for H3a. That is, the rate of change in the negative impact of OE on TI tended to be significantly steeper or accelerating toward high ES and EE scores than the scores in the opposite directions. The interaction term of OE by JS was also significant and negative ($F = 13.94$, $\eta^2 = .08$), as predicted in H3b (Figure 2b).

Similarly, JE and OS resulted in a significant, negative synergy on TI ($F = 17.83, \eta^2 = .10$), which provided empirical evidence for H4a (Figure 2c). Finally, the interaction effect of JE by JS was marginal in the predicted direction ($F = 3.26, \eta^2 = .02$) and this relationship is visualized in Figure 2d and, thus, the null hypothesis of H4d could not be rejected.

[Figure 2]

5. GENERAL DISCUSSION AND IMPLICATIONS

Both EE and ES are known to mitigate employee TI. This study reconfirms that the same effects hold true both when EE is disaggregated into OE and JE and when ES into OS and JS. A series of investigations in this study provide converging results and conclusions on these effects for hospitality sales professionals in line with some existing knowledge. The design of this study allowed testing for such effects at least twice (i.e., at the organizational and job levels), and produced consistent findings. Although researchers examined the roles of EE and ES in determining TI, few studies, especially in the hospitality literature, have conceptualized and analyzed collectively these main effects at a disaggregate level to provide a set of confirmatory empirical discoveries. In this regard, this study contributes to the existing knowledge by providing a set of consistent results suggesting operations of not only linear but also nonlinear covariances between engagement/satisfaction and TI.

The nonlinear effects of EE and ES, especially at a disaggregated level, on TI are new to the turnover literature. This is particularly true, too, for sales research as observed by Johnson (2014). As Johnson and other researchers cautioned (Zivnuska *et al.*, 2002), nonlinear effects can be elusive, inconsistent, and unpredictable for their presence. The polynomial model in this study, however, consistently indicated the significant presence of both quadratic and cubic functions in the relationships of TI with disaggregated EE and ES concepts. Therefore, our data provide strong empirical evidence for the relationships of EE and ES with TI to be best characterized in an inverted S-curve. Interpretation of nonlinear relationships like this is not easy (Edwards, 2002), but such modeling efforts are important for theoretical progress and practical precision. This study indicates that the impacts of EE and ES on TI are generally accelerating at the lower levels of EE and ES and then dissipating or levelling off at the higher levels of EE and ES inputs. These latter nonlinear effects are in addition to the widely known linear effects.

A close examination of the nonlinear results in Table 2 reveals two interesting points. First, seen from the amount of variance explained, ES appears to be generally more influential on TI than EE at both the organizational and job dimensions. These results, however, could be a derivative of experimental manipulations and necessitate cautious interpretation. Second, the quadratic effects are much smaller than the cubic effects across all EE and ES dimensions. There are significant increases in the amounts of variance explained by the cubic functions than by the quadratic functions, and they are consistent across all EE and ES conditions. These results imply that the accelerating quadratic function is somewhat weaker than the diminishing cubic function in the relationships. These relationships can be characterized in an inverted S-curve with a short transitional quadratic slope as reflected in Figure 1.

Although our data provide overwhelming evidence supporting the interaction effects of EE by ES on TI, such effect was marginal in the case of the interaction between JE by JS (Experiment 4). While an increased sample size may add statistical power to detect such effect more likely, the marginal level of sample homogeneity could have caused attenuation in the strength of this interaction effect. In the absence of previous studies providing empirical

evidence on the same effect, reasoning on why this was the case is difficult. More homogenous samples may provide additionally reinforceable results. Replications of our study in this respect are desirable to draw firmer conclusions.

5.1 Theoretical Implications

This study adds a set of fresh findings to the existing body of the turnover literature about how EE and ES function in reducing TI. This is the first study examining EE and ES simultaneously at the disaggregate levels, their linear and nonlinear functions, and their interaction effects, particularly with hospitality sales professionals. This study also responds to the call by Johnson (2014) for additional research on nonlinear effects, particularly in the sales context. Although the linear relationships of turnover intention with EE and ES are well documented in the literature, studies providing converging evidence on nonlinear relationships, especially of the cubic, are relatively few. Unlike many previous studies, the present study offers a set of consistent empirical findings by relying on the principles of prospect theory. Although prospect theory could provide reasons for the asymmetric effects of the low vs. high levels of EE and ES on TI in our study, the theory still needs additional refinements to consolidate the conceptualization, operationalization, and interpretation of the findings. Johnson (2014) argues that nonlinear effects are theoretically grounded, but it is not clear what specific theory would conceptualize curvilinear relationships of such complex nature. Additional conceptual work is necessary in this aspect of sales research.

Interpretation of the effects of EE and ES on TI is not as simple as what many previous studies indicated based mostly on a linear relationship. The presence of significant quadratic and cubic relationships implies that the relationship contains at least two inflection points causing changes in the relationship's strength and nature. Conceptually, these elbows may mean that the desirable outcomes may be accelerated, delayed, and/or diminished unproportionally over the span of the relationship, cautioning an assumptive interpretation of the relationship based on linearity alone. In addition, some previous studies reported the presence of a quadratic relationship but, theoretically speaking, a U-shaped curve in a relationship is unrealistic as it indicates an indefinite, exponential growth or decline of the relationship. Thus, a cubic S-curve, as reported in this study, seems more intuitively appealing and realistic for theoretical understanding of the focal relationship as it curbs the exponential function of a U-shaped growth.

The lack of a priori theoretical explanations is also a major drawback in formulating interaction effects and, thus, most investigations of such joint effects tend to be post-hoc in the tradition of factorial general linear modeling. Although our data suggested a significant interaction between EE and ES toward TI, our conceptualization on such interaction effects relied on the findings of related previous studies as well as our own reasonings in the absence of strong source theories in the turnover literature. Moreover, a simultaneous presence of an interaction effect and nonlinear effects complicates interpretation of the findings further. Again, additionally refined applications of prospect theory or other theories might provide stronger conceptual backgrounds for these interaction as well as nonlinear effects in general. Future efforts may also consider employing a methodological approach to design and analyze moderated nonlinear effects to aid in interpreting the results (e.g., Sturman *et al.*, 2012). Accumulation of empirical evidence on nonlinear relationships through additional research may also help enhance the generalizable functions of prospect and other theories.

5.2 Practical Implications

Hospitality organizations need to consider investing multilaterally when they try to adopt EE and ES as employee retention strategies. Not only does employees' engagement with the organization mitigate their TI but also their engagement with the job and duties they perform reduces TI. Similar arguments are tenable for ES in that their satisfaction with both the organization and the job they perform are negatively related to TI. A good understanding of factors contributing to EE and ES will be helpful; EE could be one way to increase ES, or vice versa, for example, as implied in the significant interaction effects between the two. It is clear from our data that EE and ES create some synergistic effects for suppressing employee TI. In fact, investing in EE and ES simultaneously may achieve operational efficiency as EE and ES are likely to require similar resources, efforts, and programs. Thus, common resource strategies conducive to EE and ES will help reduce duplicate efforts.

Investments in EE and ES should go with caution given to the effectiveness of continued resource allocations. Although investing in EE and ES may produce increasingly positive results in reducing TI, such favorable return will happen only to a certain point; additional investments are unlikely to generate commensurate returns. This levelling-off effect applies equally to the synergistic effect of EE and ES according to our data. The significant inverse cubic functions found in this study clearly indicate that the negative impacts of EE and ES on TI would each hit some saturation points and start tapering off thereafter. This may speak to a "too much of a good thing" effect (Caesens *et al.*, 2014; Zivnuska *et al.*, 2002); for example, too much EE may lead to an overload, which may cause dissatisfaction and turnover or make employees increasingly insensitive or indifferent to the incentives of EE. This is conceptually consistent with the prediction of conservation of resources theories. To determine when to slow down committing additional resources to EE and ES, organizations need to track the ratio of return on investment. For example, firms may periodically compare employee turnover rates to the resources allocated to EE and ES. A notable change in the ratio may signal a point for adjusting the investment level as additional investment beyond such point may not be as productive as in the earlier investment period.

Commensurate efforts to improve both EE and ES may delay the diminishing returns on investments in employee retention. Compared to improving ES, achieving employees' deep engagement may require a different pooling of organizational resources. In addition, EE and ES may lead to affecting other aspects of organizational performance than reducing turnover only. Therefore, while investing in either EE and ES justifies its own reason, achieving high levels of EE and ES simultaneously was found to yield a synergistic impact on lowering TI. This kind of bilateral investment may be effective in curbing the diminishing return pattern shown in the separate relationship of either EE and ES with TI. In short, management needs to assure simultaneously achieving high levels of EE and ES, but still expect that the synergy will eventually phase down over time. Thus, locating the turning point of the effect may help firms save valuable resources from continued ineffective investments. It is imperative that both the linear and nonlinear effects be empirically determined with actual data to gain more realistic pictures of how they occur with each organization.

5.3 Suggestions for future research

Several potential limitations inherent in our study point to directions for future turnover research. First, the converging results from the four experiments may reflect highly correlated concepts of EE and ES at the disaggregated levels in real situations. Previous studies indicate EE and ES are moderately to highly correlated (Kaur, 2017). To avoid potential collinearity issues

that might arise from cross-sectional surveys and measurement, this study took an experimental approach with random assignment of the subjects to orthogonalize EE and ES so that their individual as well as joint effects on TI could be assessed more unbiasedly. Nonetheless, a simultaneous estimation of the linear and nonlinear effects was challenging when including all EE and ES dimensions in the same model due to potential multicollinearity issues, even if this study adopted the proven measures of each variable from previous studies. As much as these two concepts are overlapped in their impacts on TI, organizational endeavor to reduce TI by improving both EE and ES may cause some levels of inefficiency. Rigorous studies are in order to demonstrate conceptual distinction of these variables at the disaggregate level.

Second, future research needs to address how to unravel the independent as well as joint effects of EE and ES on TI. In the presence of both nonlinear and interaction effects, interpretation of the results is even more challenging. If studies can be designed to circumvent multicollinearity problems when direct comparisons of nonlinear and interaction effects in the same model are conducted, the resulting findings are likely to add significantly to the existing knowledge. The results of this study imply some moderated nonlinear effects in the focal relationship and future research demonstrating clear pictures of such effects warrants meaningful contributions.

Third, future research needs to evaluate the generalizability of our findings desirably with actual turnover data. No matter how strong it is, TI may not always translate into actual turnover behavior for various reasons. Thus, the findings on all the relationships presented in this study should be interpreted with caution given to their ecological validity when applied to actual turnover situations. Certainly, longitudinal correlational studies with actual turnover data are desirable to provide accurate pictures of the phenomena. In addition, big data on turnover might add significant value to the existing body of knowledge.

Additional research is necessary to draw more generalizable conclusions. This study chose hospitality sales professionals for the reasons discussed earlier, but whether our findings can be generalized to employees in other areas and positions of both hospitality and non-hospitality organizations is a question for future investigations. Provided that many organizations are investing seriously in employee engagement and satisfaction, additional research extending this study to other hospitality employees warrants both theoretical and practical contributions. It will be also interesting to see whether both the linear and nonlinear relationships are generalizable, under some controllable boundary conditions, to the relationships among other organizational variables. Furthermore, provided this study focused on hospitality sales professionals in the U.S., future studies are encouraged to examine these relationships in other cultures because organizational environments are inarguably subject to cultural influences.

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Figure 1. Plot of Linear and Nonlinear Relationship Patterns

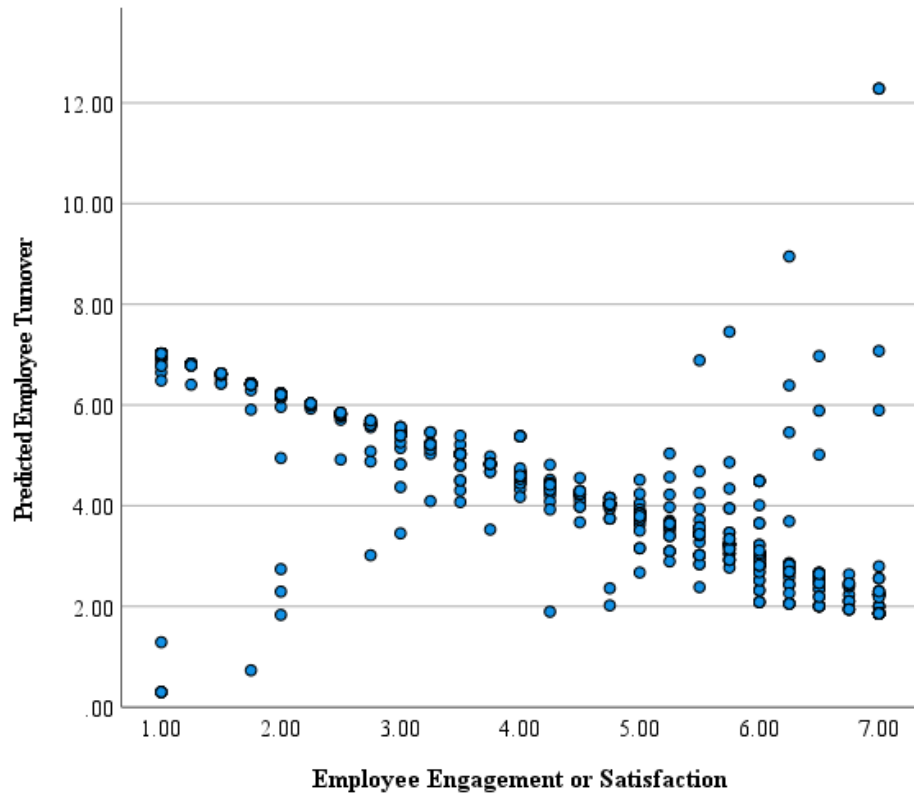
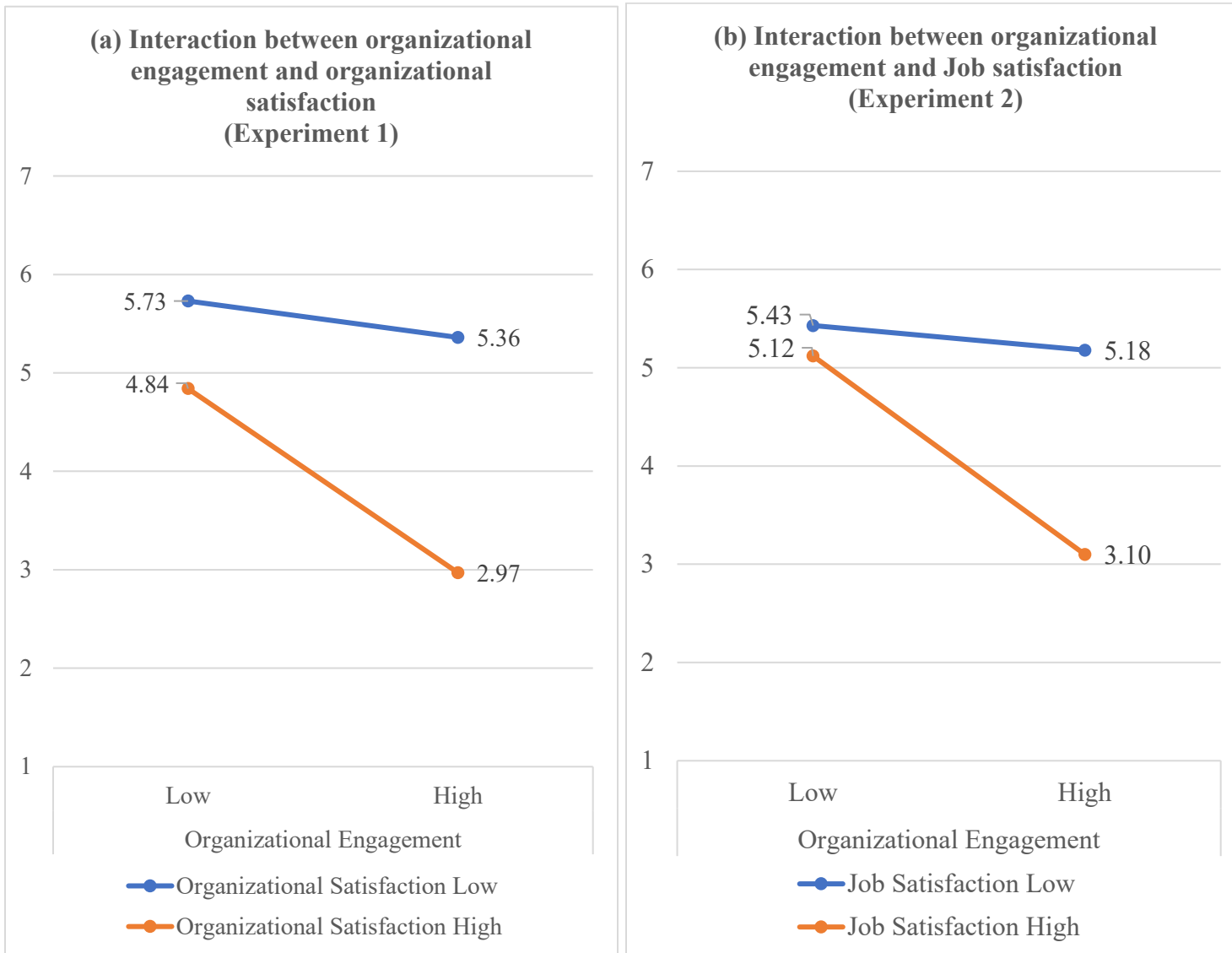


Figure 2. Interaction Plots



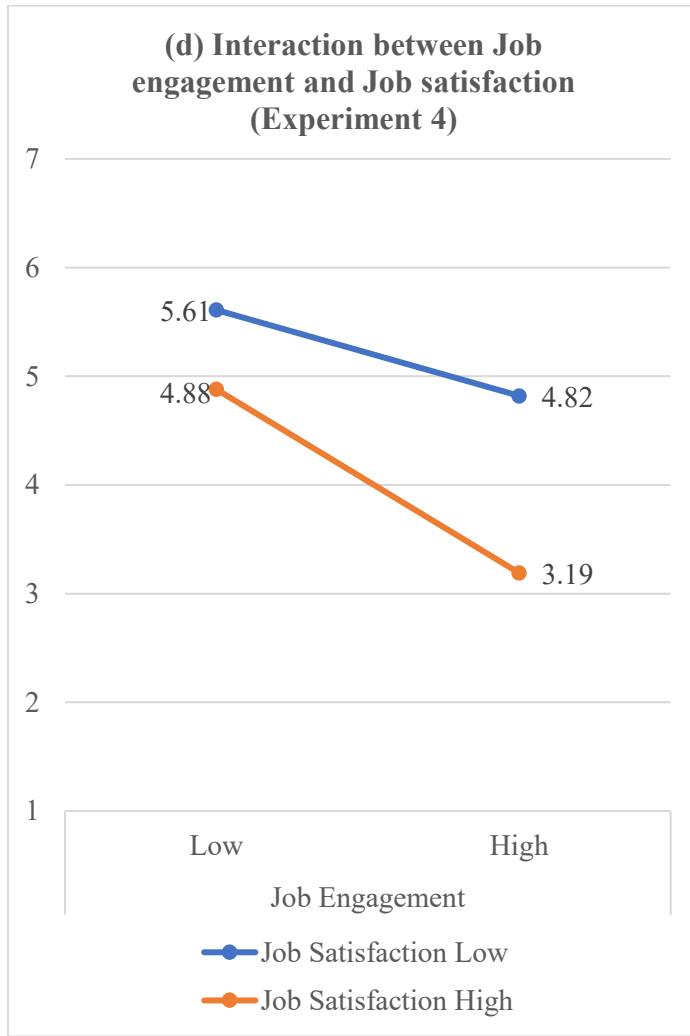
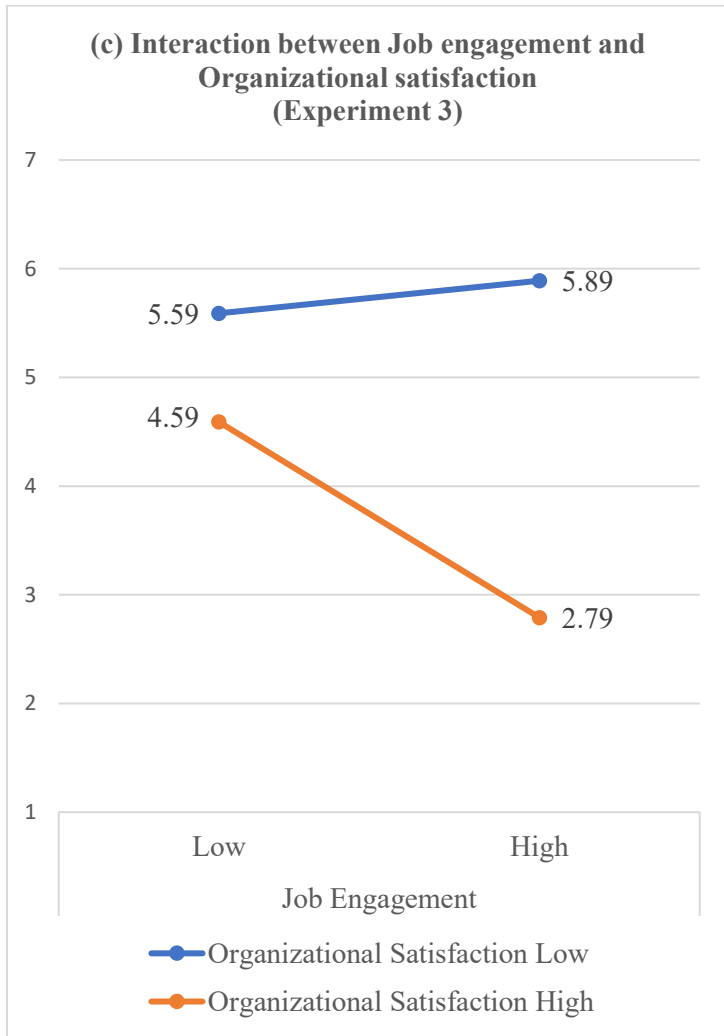


Table 1. Descriptive Statistics for Studies

	Condition 1	Condition 2	Mean	S.D.	F	η
Experiment 1	OE - Low	OS - Low	5.73	1.76	21.92*** ^a	0.12
		OS - High	4.84	1.19	46.52*** ^b	0.23
	OE - High	OS - Low	5.36	1.64	9.88*** ^c	0.06
		OS - High	2.97	1.40		
Experiment 2	OE - Low	JS - Low	5.43	1.68	22.65*** ^a	0.13
		JS - High	5.12	1.49	25.23*** ^b	0.14
	OE - High	JS - Low	5.18	1.36	13.94*** ^c	0.08
		JS - High	3.10	1.47		
Experiment 3	JE - Low	OS - Low	5.59	1.64	9.09*** ^a	0.06
		OS - High	4.59	1.81	67.95*** ^b	0.30
	JE - High	OS - Low	5.89	1.49	17.83*** ^c	0.10
		OS - High	2.79	1.31		
Experiment 4	JE - Low	JS - Low	5.61	1.61	24.85*** ^a	0.14
		JS - High	4.88	1.18	22.63*** ^b	0.13
	JE - High	JS - Low	4.82	1.99	3.26* ^c	0.02
		JS - High	3.19	1.38		

OE = organizational engagement, JE = job engagement, OS = organizational satisfaction, and JS = job satisfaction. Turnover intention was the dependent variable.

* $p \approx .07$; ** $p < .01$.

^a Condition 1

^b Condition 2

^c Condition 1 x Condition 2

Table 2. Non-linear Regression Results

Independent Variable	Unstandardized Coefficient*	Standardized Coefficient*	ΔR^2
Intercept	7.98	--	--
Organizational Engagement	-.77	-.77	.50
(Organizational Engagement) ²	-.15	-.28	.52
(Organizational Engagement) ³	.06	.50	.75
Age	-.01	-.02	.75
Gender	-.04	-.01	.75
Intercept	7.71	--	--
Job Engagement	-.78	-.77	.46
(Job Engagement) ²	-.09	-.18	.47
(Job Engagement) ³	.08	.57	.78
Age	.01	.01	.78
Gender	.01	.01	.78
Intercept	7.71	--	--
Organizational Satisfaction	-.74	-.81	.55
(Organizational Satisfaction) ²	-.13	-.25	.58
(Organizational Satisfaction) ³	.06	.47	.78
Age	-.01	-.03	.78
Gender	-.03	-.01	.78
Intercept	7.82	--	--
Job Satisfaction	-.79	-.81	.53
(Job Satisfaction) ²	-.09	-.17	.54
(Job Satisfaction) ³	.07	.51	.78
Age	-.01	-.01	.78
Gender	.01	.01	.78

*The coefficients for Age and Gender are all statistically insignificant ($p > .10$); all the other coefficients are statistically significant ($p < .001$). Turnover intention was the dependent variable.

Appendix

A. Experimental Scenarios

	High	Low
Organizational Engagement	Company XYZ really cares about its employees and keeps them always informed about what is going on with the company. Company XYZ also supports engaging employees in its various business decisions, activities, and feedback process.	Company XYZ does not care about its employees and ignores keeping them informed about what is going on with the company. Company XYZ also fails engaging its employees in its various business decisions, activities, or feedback process.
Professional Engagement	Company XYZ provides its employees with excellent opportunities to engage in what they do and how they perform daily in their position. Company XYZ, thus, helps its employees feel immersed into the job they perform.	Company XYZ provides its employees with poor opportunities to engage in what they do and how they perform daily in their position. Company XYZ, thus, fails helping its employees feel immersed into the job they perform.
Organizational Satisfaction	The overall working conditions at Company XYZ are very positive, as the company offers competitive salaries, a pleasant workplace climate, trusted leadership, and high collegiality.	The overall working conditions at Company XYZ are not positive, as the company offers salaries lower than competitors', an unpleasant workplace climate, distrusted leadership, and low collegiality.
Occupational Satisfaction	Company XYZ provides excellent support for its employees to stay happy on their job, as it offers well-designed jobs, good promotion tracks, and frequent professional development and retraining opportunities.	Company XYZ provides poor support for its employees in performing their job, as it offers poorly designed jobs, lack of promotion tracks, and no professional development or retraining opportunities.

B. Manipulation Check and Realism Check Questions

Manipulation	Measure
Organizational Engagement	Company XYZ's effort to engage its employees in its business process and activities is: Poor (1) – Excellent (7)
Professional Engagement	Company XYZ's effort to engage its employees in the job or work they perform daily is: Poor (1) – Excellent (7)
Organizational Satisfaction	How satisfactory are the working conditions at Company XYZ? Very Unsatisfied (1) – Very Satisfied (7)
Occupational Satisfaction	How satisfied are you with the long-term career prospect offered at Company XYZ? Very Unsatisfied (1) – Very Satisfied (7)
Realism	How likely is it that companies like Company XYZ exist in reality? Very Unlikely (1) – Very Likely (7)

C. Measures of EE, ES, and TL

Organizational Engagement ($\alpha = .97$) (Saks, 2006):

1. Working for Company XYZ would be very captivating.
2. It would be exciting for me to get involved with things happening in Company XYZ.
3. I would be really into the “goings-on” in Company XYZ.
4. Being a member of Company XYZ would make me feel “alive.”
5. Being a member of Company XYZ would be exhilarating.
6. I would be highly engaged in Company XYZ.

Professional Engagement ($\alpha = .95$) (Saks, 2006):

1. I would really “throw” myself into my job at Company XYZ.
2. I would be so into my job at Company XYZ that I lose track of time.
3. My job at Company XYZ would be all-consuming; I would be totally into it.
4. I would be highly engaged in my job at Company XYZ.

Organizational Satisfaction ($\alpha = .97$) (Andreoli & Lefkowitz, 2009; Bouckennooghe et al., 2013):

1. I would be satisfied with working for Company XYZ.
2. I feel positive about working for Company XYZ.
3. Working for Company XYZ would be rewarding to me.
4. I think Company XYZ would be a good choice for my career development.
5. I feel Company XYZ offers good career opportunities.

Occupational Satisfaction ($\alpha = .97$) (Andreoli & Lefkowitz, 2009; Bouckennooghe et al., 2013):

1. I would be satisfied with my job while working for Company XYZ.
2. I would love my job while working for Company XYZ.
3. I would like my job at Company XYZ better than anyone else would.
4. I would value career opportunities while working for Company XYZ.

Turnover Intention ($\alpha = .96$) (Wang et al., 2018):

1. I would look for a job outside Company XYZ.
2. As soon as I find a better job, I would leave Company XYZ.
3. I would seriously think about quitting my job at Company XYZ.
4. I think I would be working for a different company soon.

D. Constructs' Descriptive Statistics

Items	Study 1		Study 2		Study 3		Study 4	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Organizational Engagement								
OE_1	3.86	3.86	3.86	3.86	3.89	3.89	3.81	3.81
OE_2	3.98	3.98	3.86	3.86	4.00	4.00	3.81	3.81
OE_3	4.02	4.02	4.00	4.00	4.00	4.00	3.88	3.88
OE_4	3.58	3.58	3.64	3.64	3.64	3.64	3.71	3.71
OE_5	3.61	3.61	3.53	3.53	3.57	3.57	3.64	3.64
OE_6	3.84	3.84	3.90	3.90	3.89	3.89	3.91	3.91
Professional Engagement								
PE_1	4.10	4.10	3.99	3.99	4.18	4.18	4.17	4.17
PE_2	3.64	3.64	3.54	3.54	3.56	3.56	3.45	3.45
PE_3	3.73	3.73	3.54	3.54	3.59	3.59	3.51	3.51
PE_4	4.09	4.09	3.93	3.93	4.07	4.07	3.86	3.86
Organizational Satisfaction								
OS_1	3.86	3.86	3.89	3.89	3.94	3.94	3.87	3.87
OS_2	3.89	3.89	3.90	3.90	3.96	3.96	3.89	3.89
OS_3	3.93	3.93	3.89	3.89	3.93	3.93	3.94	3.94
OS_4	3.81	3.81	3.88	3.88	4.04	4.04	3.79	3.79
OS_5	3.98	3.98	3.91	3.91	3.93	3.93	4.01	4.01
Occupational Satisfaction								
JS_1	3.94	3.94	3.89	3.89	3.99	3.99	3.86	3.86
JS_2	3.76	3.76	3.75	3.75	3.87	3.87	3.73	3.73
JS_3	3.65	3.65	3.54	3.54	3.53	3.53	3.56	3.56
JS_4	4.04	4.04	4.17	4.17	4.16	4.16	4.12	4.12
Turnover Intention								
TI_1	4.74	4.74	4.89	4.89	4.79	4.79	4.72	4.72
TI_2	4.87	4.87	4.86	4.86	4.85	4.85	4.80	4.80
TI_3	4.67	4.67	4.39	4.39	4.55	4.55	4.36	4.36
TI_4	4.61	4.61	4.69	4.69	4.66	4.66	4.62	4.62

E. Respondents' Profile

Demographic Information (N = 640)	N	%	Experiment 1		Experiment 2		Experiment 3		Experiment 4	
			N	%	N	%	N	%	N	%
Gender										
Male	220	34.4%	56	35.0%	58	36.3%	58	36.3%	48	30.0%
Female	420	65.6%	104	65.0%	102	63.8%	102	63.8%	112	70.0%
Age										
Under 21 years old	31	4.8%	7	4.4%	7	4.4%	9	5.6%	8	5.0%
21 - 30 years old	239	37.3%	63	39.4%	63	39.4%	56	35.0%	57	35.6%
31 - 40 years old	172	26.9%	43	26.9%	50	31.3%	40	25.0%	39	24.4%
41 - 50 years old	99	15.5%	25	15.6%	22	13.8%	27	16.9%	25	15.6%
51 - 60 years old	61	9.5%	13	8.1%	9	5.6%	21	13.1%	18	11.3%
Over 60 years old	38	5.9%	9	5.6%	9	5.6%	7	4.4%	13	8.1%
Education Level										
High school or less	204	31.9%	51	31.9%	51	31.9%	49	30.6%	53	33.1%
2-year associate degree or similar	170	26.6%	41	25.6%	41	25.6%	44	27.5%	44	27.5%
4-year college	202	31.6%	49	30.6%	54	33.8%	50	31.3%	49	30.6%
Master's degree	27	4.2%	11	6.9%	6	3.8%	7	4.4%	3	1.9%
Doctoral degree	4	0.6%	1	0.6%	2	1.3%	0	0.0%	1	0.6%
Other	33	5.2%	7	4.4%	6	3.8%	10	6.3%	10	6.3%
Annual Household Income										
Under \$50,000	331	51.7%	84	52.5%	84	52.5%	68	42.5%	95	59.4%
\$50,001 - \$75,000	123	19.2%	35	21.9%	33	20.6%	31	19.4%	24	15.0%
\$75,001 - \$150,000	146	22.8%	33	20.6%	37	23.1%	46	28.8%	30	18.8%
Above \$150,001	40	6.3%	8	5.0%	6	3.8%	15	9.4%	11	6.9%
Ethnicity										
White	484	75.6%	121	75.6%	122	76.3%	121	75.6%	120	75.0%
African American	56	8.8%	16	10.0%	12	7.5%	11	6.9%	17	10.6%
American Indian or Alaska Native	6	0.9%	2	1.3%	3	1.9%	1	0.6%	0	0.0%

Asian	14	2.2%	3	1.9%	5	3.1%	2	1.3%	4	2.5%
Hispanic	52	8.1%	10	6.3%	14	8.8%	16	10.0%	12	7.5%
Native Hawaiian	2	0.3%	0	0.0%	1	0.6%	1	0.6%	0	0.0%
Other	26	4.1%	8	5.0%	3	1.9%	8	5.0%	7	4.4%
Role in Occupation										
Sales Staff or Professional	620	96.9%	158	98.8%	156	97.5%	149	93.1%	157	98.1%
Managerial - Sales	249	38.9%	64	40.0%	60	37.5%	67	41.9%	58	36.3%
Other Hospitality Sales	116	18.1%	26	16.3%	32	20.0%	26	16.3%	32	20.0%
Occupation Length										
Less than 5 years	322	50.3%	83	51.9%	83	51.9%	76	47.5%	80	50.0%
5 - 10 years	176	27.5%	41	25.6%	47	29.4%	46	28.8%	42	26.3%
11 - 15 years	57	8.9%	20	12.5%	10	6.3%	13	8.1%	14	8.8%
16 - 20 years	34	5.3%	8	5.0%	7	4.4%	11	6.9%	8	5.0%
21 - 25 years	26	4.1%	5	3.1%	5	3.1%	8	5.0%	8	5.0%
More than 25 years	25	3.9%	3	1.9%	8	5.0%	6	3.8%	8	5.0%
