

Behavioral Engagement: How Can You Measure It?

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Abstract

Employee engagement is a relatively new construct in academia and has received considerable press attention. Employee engagement is linked to positive business unit outcomes such as profitability, productivity, employee turnover rate, satisfaction, customer loyalty, and safety. The objectives of this study are to propose and validate the reliability of a behavioral employee engagement scale. The proposed scale ($\alpha = 0.908$) is negatively related to turnover intention and positively associated with employee safety grade, willingness to recommend organization as a place for work and care, and workplace safety. . Therefore, the proposed scale is posited to be valid and reliable.

Introduction

The employee engagement concept is relatively new in academia. The employee engagement construct first originated from survey houses and consulting firms (Macy & Schneider, 2008). Gallup Research Group, a consulting firm, created the employee engagement concept as a result of 25 years of interviewing and surveying employees and managers (Little & Little, 2006). The employee engagement concept has generated considerable press attention because Gallup researchers found a direct link between engaged employees and positive business outcomes. Practitioners and researchers have also found a positive relationship between employee engagement and organizational performance outcomes such as employee retention, productivity, profitability, customer loyalty, and safety (Attridge, 2009; Harter, Schmidt & Keyes, 2002; Markos & Sridevi, 2010; Robinson & Cooper, 2009; Robinson, Perryman & Hayday, 2004).

However, in most research references, employee engagement is related to human resource management and is often less accepted as an academic construct (Markos & Sridevi, 2010). The construct of employee engagement has only been tested empirically, and the theoretical frameworks have not been studied thoroughly. Various practitioners interpret the definition and the measure of employee engagement differently. Academic researchers have called for a clearer definition and measurement for employee engagement (Markos & Sridevi, 2010; Macy & Schneider, 2008; Little & Little, 2006; Robertson & Cooper, 2009). The purpose of this study is to clarify the concept of employee engagement and validate a proposed

behavioral employee engagement scale. The second purpose is to measure the ability of the proposed scale to predict common outcome variables.

What is Employee Engagement?

Researchers and practitioners agree that having engaged employees is beneficial to an organization. What they cannot agree on is how to name and define employee engagement. Numerous definitions and names exist.

Employee engagement is sometimes referred to as engagement (Crawford, LePine & Rich, 2010), personal engagement (Kahn, 1990), work engagement (Saks, 2006; Schaufeli & Bakker, 2003), job engagement (Kong, 2009), and organizational engagement (Saks, 2006). The name disagreement creates confusion in the field, leading to different interpretations. Practitioners and researchers need to agree on one name for this new construct in order to prevent further confusion.

Some researchers also believe that employee engagement is “old wine in a new bottle” (Macey & Schneider, 2008) because engagement is comprised of existing constructs, including organizational commitment, job involvement, job satisfaction, well-being, organizational citizenship behavior, and/or psychological empowerment (Little & Little, 2006; Harter et al., 2002; Saks, 2006). However, Macey and Schneider (2008) claim that employee engagement involves more than these existing constructs; it includes the personality, mood and actions of those in the workplace. Employee engagement thus functions as an umbrella construct, which is inclusive of various components of employee attitudinal and behavioral actions.

Definition is also a source of confusion. Kahn (1990, p.694) first defined personal engagement as the “harnessing of organization members’ selves to their work role, in which people employ and express themselves physically, cognitively, and emotionally during role performances.” Later, Schaufeli and colleagues (2002, p.74) defined work engagement as a “positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption.” In 2003, the Towers Perrin Talent Report defined engagement as employees’ willingness and ability to contribute to company success. The following year, Robinson, Perryman, and Hayday (2004) described engagement as a two-way relationship between employer and employee, in which the employee holds a positive attitude toward the organization and its values. An engaged employee is aware of business context and works with colleagues to improve performance within the job for the benefit of the organization. The organization must also work to nurture, maintain, and grow engagement.

Finally, in 2008, Macey and Schneider provided a framework for employee engagement, breaking down the construct into state, trait, and behavioral engagement. The framework defined trait engagement as positive views of life and work; state engagement as feelings of energy and absorption; and behavioral engagement as extra-role behavior. Our employee engagement scale is based on Macey and Schneider’s framework and seeks to measure behavioral engagement (see Figure 1). We chose Macey and Schneider’s framework because their paper clearly identify and separates engagement into three distinct categories. The framework also explains the relationship between engagement and other existing constructs listed above. The thorough explanations demonstrate a comprehensive evaluation by the authors of other researchers’ argument that employee engagement is an old construct with a new name. We chose to create a behavioral engagement scale instead of a trait and a state engagement scale because an employee’s behavior can be influence. An employee’s trait cannot be change and an employee’s state can only be influenced temporarily. Being able to measure employees’ behavioral engagement can help

managers identify what they need to implement in the workplace to better benefit the employees and the organization as a whole.

Existing Employee Engagement Scales

Two employee engagement scales are commonly cited, the Gallup Workplace Audit (GWA) and the Utrecht Work Engagement Scale (UWES). The GWA is fee-for-service survey owned by Gallup. The UWES is publicly available for non-commercial educational or research purposes. However, some of the data gathered must be shared with the authors.

The Gallup Research Group defines employee engagement as a combination of cognitive and emotional antecedent variables in the workplace (Harter et al., 2002). The elements included in GWA, collectively known as employee engagement, are actions within the organizations that support clear outcome expectancies, give basic material support, encourage individual contribution and fulfillment, provide a sense of belonging, and offer a chance to progress and learn continuously. Although many companies have used the GWA survey to measure their engagement levels, the methodology used to construct the GWA survey has been criticized. Little and Little (2006) referred to the questions asked in the GWA survey as “statistically derived items.” In this case, statistically derived items mean that Gallup has only found statistically valid relationships among the questions. No theoretical framework explains why the questions were chosen. They also criticized Gallup researchers for spending too much time explaining the meta-analytic techniques used to find the relationships among the items in their questionnaire and the business unit level outcomes and not spending time to define and validate the construct of employee engagement. According to Harter et al. (2002), causal inference was the methodology used to derive the questionnaire; in addition, issues of statistical causality have not been addressed. Causal inference is not sufficient for the basis of scientific construct (Rothman & Greenland, 2005). As such, the accuracy of the GWA to measure employee engagement is questionable.

In contrast, the Utrecht Work Engagement Scale was created by Schaufeli and Bakker (2003). The UWES questionnaires are reformulated Maslach Burnout Inventory items. Schaufeli and Bakker (2003) believe that work engagement is the opposite of burnout. As mentioned, Schaufeli et al. (2002) break engagement into three subcategories: vigor, dedication, and absorption. In their words, vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication is defined as being strongly involved in one’s work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by being fully concentrated and happily engrossed in one’s work.

The proposed behavioral engagement scale in this study is different than the GWA and UWES measurement. While GWA items align more with trait engagement (e.g. “At work, my opinions seem to count”), and UWES items align more with state engagement (e.g. “At my work, I feel bursting with energy”), our scale seeks to measure behavioral engagement. Behavioral engagement involves extra-role behavior, which translates into organizational citizenship behaviors, proactive and personal initiatives, role expansion, and adaptive behaviors (Macey and Schneider, 2008). Our scale explores behaviors that contribute to engagement and seeks to measure the effect of others on an individual. Employees generally have daily contact with their supervisor and coworkers. Workplace support is a predictor of a variety of work attitudes, especially job satisfaction, organizational commitment, and job involvement (Cropanzano, Howes, Grandey & Toth, 1997). Supervisors who value employee contributions have an effect

on how the employees view their organizational roles (Eisenberger, Stinglhamber, Vanderberghe, Sucharski & Rohoades, 2002). Co-worker support affects the social environment at work and the employees' behaviors (Chiaburu & Harrison, 2008). Therefore, we believe that behavioral engagement can be divided into individual behaviors and behavior of others (see Figure 2). The behaviors of others, such as coworkers and supervisors, influence an employee's behavior at work.

Methods

Scale Development

The questionnaires in this scale are from the following US Department of Health and Human Services (HHS) surveys: Survey on Patient Safety Culture (SOPSC), National Nursing Assistant Survey (NNAS) and National Home Health Aide Survey (NHHAS). The SOPSC is conducted by the Agency of Healthcare Research and Quality. Many hospitals use this survey for accreditation. The NNAS and NHHAS are conducted by the Center for Disease Control and Prevention. The government uses the NNAS and the NHHAS to monitor the healthcare workforce in the United States. Content validity is established through years of replication. According to AHRQ, the Survey on Patient Safety Culture, on average, is re-administered every 16 months (Sorra & Nieva, 2004). According to HHS (2009), the NNAS was first conducted in 1973 and was repeated in 1977, 1985, 1995, 1997, 1999, and 2004. The NHHAS (HHS, 2010) was first conducted in 1992 and was repeated in 1993, 1994, 1996, 1998, 2000, and 2007. The NHHAS is a replication of the NNAS survey in an effort to create valid questions that monitor healthcare workers. The reliability estimates have been consistent for all three surveys.

Our scale consists of nine questions, four from the Survey on Patient Safety Culture and five from NNAS and NHHAS. The questions were measured on a 5-point Likert scale (1= strongly disagree, 5= strongly agree). The 9 items in this scale were chosen because the questions measure the behaviors of one's colleagues, how employees function as a unit, and how the organization and the supervisor treat employees. This aligns with our proposed behavioral engagement model. Outcome variables are also included in this study to examine if our proposed scale demonstrates valid relationships with commonly examined variables in healthcare management research. Outcome variables include overall safety grade of the hospital unit, workplace safety scale, willingness to recommend hospital as a place for work and as a place for care, and turnover intention.

Factor analysis and Cronbach's alpha were used to ensure construct validity and internal consistency reliability. Multiple linear regressions were used to examine the relationship between the proposed behavioral employee engagement scale and the outcome variables with gender, race, and education as covariates. Based on the engagement literature, we expect gender, race, and education to have an effect on the relationship between our proposed scale and outcome variables. Multiple linear regressions were also used to examine the relationship between job satisfaction and outcome variables. According to Macey and Schneider's (2008) framework, the meaning of the construct engagement is highly linked to the meaning of job satisfaction. This means that engagement should have the same relationships with the outcome variables as job satisfaction would have. Running duplicate regression models using both engagement and job satisfaction as independent variables will enable us to compare the statistical findings of our proposed behavioral engagement scale to the statistical finding of job satisfaction. Similar findings will support the validity of the scale and help to determine how other people's behavior in the workplace influence individual employee engagement.

Participants and Procedures

Using the proposed questionnaires, we tested hospital support service workers across five states: Illinois, Texas, Maryland, Kentucky, and Pennsylvania. Data was collected from 11 hospitals within 4 healthcare systems. A total of 1,922 surveys were administered, and 1,307 people responded for a return rate of 68%. Support service workers, most of whom are environmental services and food and nutrition workers, were surveyed. Most workers (41.6%, n=544) have worked in the hospital for one to five years. Of the surveyed workers, 40.8% (n=556) were Black or African American and 23.3% (n=218) were White. A majority of the participants (50.7%, n=623) had a high school diploma or equivalent (see Figure 3 for demographics).

Results

The reliability of the proposed scale has a Cronbach's Alpha of 0.908. According to George and Mallery (2009, p. 231), a Cronbach's alpha greater than 0.9 is considered excellent. Using confirmatory factor analysis, we extracted the items into both one and two factors. We then compared the one factor extraction to a two factor extraction but the percentage of variance did not increase significantly and weaken the item loadings. The one factor model is acceptable as the variables load together as one construct. The Eigenvalue is 58.64 %, which means that the items explain 58.64 percent of the variance in reported engagement.

An analysis of multiple linear regression shows that the proposed scale is a significant predictor of business level outcomes. Our proposed scale is positively related to the overall safety grade that employees give to their work unit in the hospital ($\beta=.523$, p-value <.001), workplace safety ($\beta=.707$, p-value <.001), the willingness to recommend their agency as a place to work ($\beta=.547$, p-value <.001), and the willingness to recommend their agency as a place to seek care ($\beta=.374$, p-value <.001). A positive relationship means that as the independent variable increases, the dependent variable also increases. For example, as behavioral engagement level increases, employees are more willingly to recommend their agency as a place for work. Our proposed scale is negatively related to turnover intention ($\beta=-.227$, p-value <.001), which means that less engaged employees are more likely to leave the organization within the next year.

Job satisfaction has a positive association with overall safety grade ($\beta=.342$, p-value <.001), workplace safety ($\beta=.431$, p-value <.001), willingness to recommend the agency as a place to seek work ($\beta=.458$, p-value <.001) and care ($\beta=.289$, p-value <.001). There is a negative association between job satisfaction and turnover intention ($\beta=-.352$, p-value <.001).

Gender was not found to be significant in any of the regression analysis. Ethnicity was found to be positively related to overall safety grade ($\beta=.067$, p-value<.05). Education was found to be negatively associated with overall safety grade ($\beta=-.102$, p-value <.001) and positively related to workplace safety ($\beta=.045$, p-value <.05). These results tell us that in some relationships, ethnicity and education have an effect on the outcome variables.

Discussion

Using the Macey and Schneider employee engagement framework, a behavioral engagement scale was developed. This study shows that the proposed behavioral engagement scale has high internal consistency reliability, which indicates that the results are repeatable and consistent. Factor analysis also revealed that engagement is a one-dimensional construct - a finding that aligns with other employee engagement scales that are also one-dimensional

(Seppala et al., 2008). This means that engagement is a one factor construct. Using regression analysis, the proposed scale has shown to be a significant predictor of organizational outcomes. We conducted two regression models in this study in order to examine the relationship of our proposed scale in comparison to job satisfaction. The relationships revealed that our behavioral engagement scale was able to mirror the same results as job satisfaction. The results confirm existing relationships between engagement and outcome variables such as job turnover (Eisenberger et al., 2002), and safety (Tucker, Chmiel, Turner, Hershcovis, & Stride, 2008). When controlling for covariate influences, we expect gender to have a positive relationship (Clark, 1997), education to have a negative relationship (McNeese-Smith, 1997), and ethnicity to have no relationship (Mynatt, Omundson, Schroeder & Stevens, 1997) in the model. Contrary to our expectations, gender was not found to be significant, education was negatively related with overall safety grade and positively related to workplace safety, and ethnicity was only found to be positively associated with overall safety grade. However, the combined results of reliability, factor, and regression analyses indicated that the proposed behavioral engagement scale is valid and reliable.

Supervisors and coworkers have a direct influence on employees' behaviors. According to Chiaburu and Harrison (2008, p. 1094), "coworker actions predict perceptual, attitudinal, and behavior outcomes of their colleagues." This means that a strong link exists between a coworker's action and an employee's perception of the work environment, directly influencing the employee's job satisfaction, job involvement, and organizational commitment. In terms of leadership and supervisor support, Eisenberger and colleagues (2002) found that employees who believe that supervisors who value employee contributions and care about employees' well-being have an inverse relationship with turnover; greater supervisor support results in fewer turnovers. In another study by Griffin, Patterson, and West (2001), supervisor support showed a strong relationship with job satisfaction. These studies all indicate that behavioral engagement is fostered by actions of others within the workplace. Behavioral engagement is affected by how one's colleagues behave, how employees and colleagues function as a team, and how the organization and the supervisors treat workers. To be able to measure and interpret the behavioral engagement level in the workplace is beneficial to an organization.

Limitations and Future Directions

There are several limitations in this study. First, factor analysis and multiple regression modeling were our validation methods. Higher statistical validations are needed to confirm the accuracy of the scale. Confirmatory factor analysis, structure equation modeling, and fit indices are recommended. Generalizability of this study is also limited to hospital support service workers in similar hospitals as we studied. Although we expect the behavioral engagement scale to measure engagement despite occupation and profession type, future studies should test the scale using other occupation type. This will ensure that the proposed scale remains consistent across various occupations. Third, the study is conducted in a cross-sectional manner. Future studies should use a longitudinal study design to repeatedly measure engagement level. Replication should be made with support service workers in other health care systems to determine if behavioral scale remains valid. Participant bias might also be a source of limitation. Support service workers might feel obligated to answer in a positive manner in order to keep their job. A majority of the participants have an education level of high school or less and skills required to be a support service worker are seen as less transferable, therefore response bias is probable. Finally, a final limitation to this study is that the questions in our scale were not

developed with engagement as the key outcome. Future studies should utilize our scale simultaneously with other employee engagement measures to determine if our scale measures a distinctly different component of employee engagement from the existing scales.

Conclusion

Engaged employees are beneficial to an organization. Engaged employees dedicate themselves to accomplish tasks. Since a person's disposition cannot be changed and a person's state can only be influenced temporarily, having employees who are engaged behaviorally is more meaningful. Employee behaviors are influenced by the organizations, colleagues, and supervisors. Supervisors and managers have daily contact with their employees. This unique position allows managers and leaders to influence the employees and their engagement level. Facilitating actions in the work environment that encourage support, teamwork, a sense of belonging, clear expectations, and a chance to progress and learn is in the best interest of the organization. A better work environment leads to increased behavioral engagement and better organizational outcomes. For healthcare managers, it means that they have the power to create a workplace that engages workers. This is especially valued in the healthcare industry as highly engaged workers are likely to provide better services and better care, subsequently influences patient experiences in a positive manner. With patient safety and quality of care continuing at the forefront of critical goals in healthcare, employee engagement offers a way for organizations to better attain their patient care goals

Using relevant behavior items, we offer a strong foundation for the continued use of our behavioral engagement scale in employee engagement studies. With coworkers and supervisors contributing to the everyday work environment, the need to examine how the actions of others becomes paramount. We believe more studies are needed to focus on measuring actions at work that can positively change the overall workplace environment.

Tables and Results Available from Authors on Request

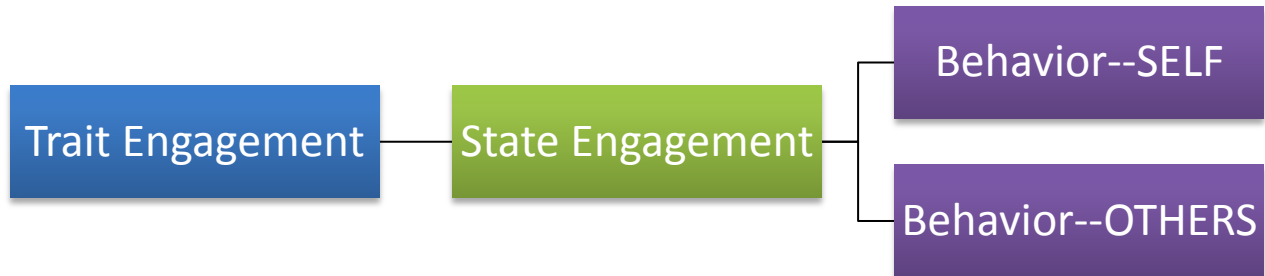
Appendix:

Figure 1: Employee Engagement Model¹



¹Macey, W.H. and Schneider, B. 2008. The meaning of employee engagement. *Industrial and Organizational Psychology*, 1: 3-30.

Figure 2: Behavioral Engagement Framework²



²Adapted from Macey, W.H. and Schneider, B. 2008. The meaning of employee engagement. *Industrial and Organizational Psychology*, 1: 3-30.

Figure 3a: The primary unit in which participants work

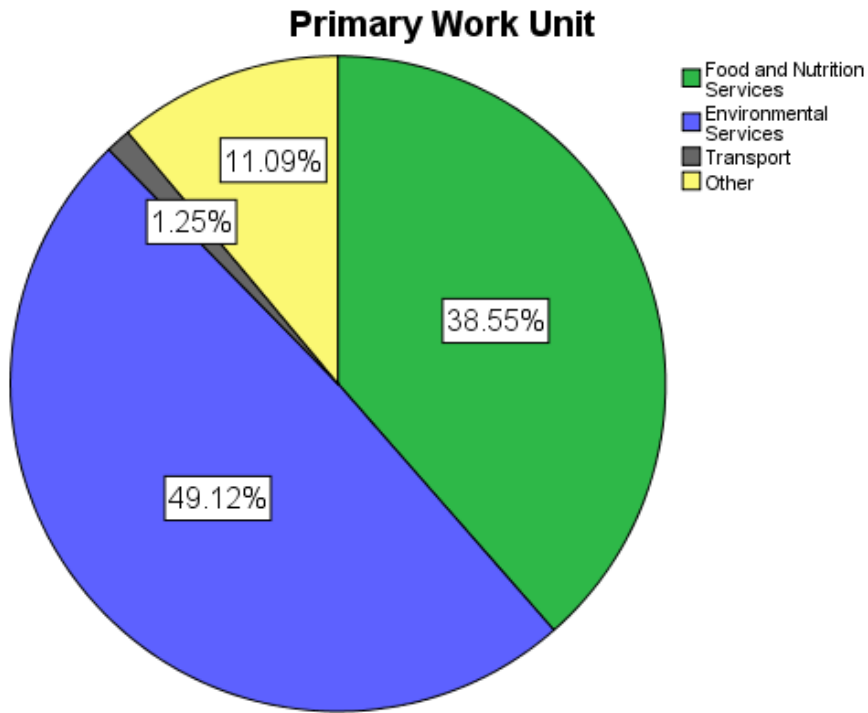


Figure 3b: The length participants have been working in the specify hospital

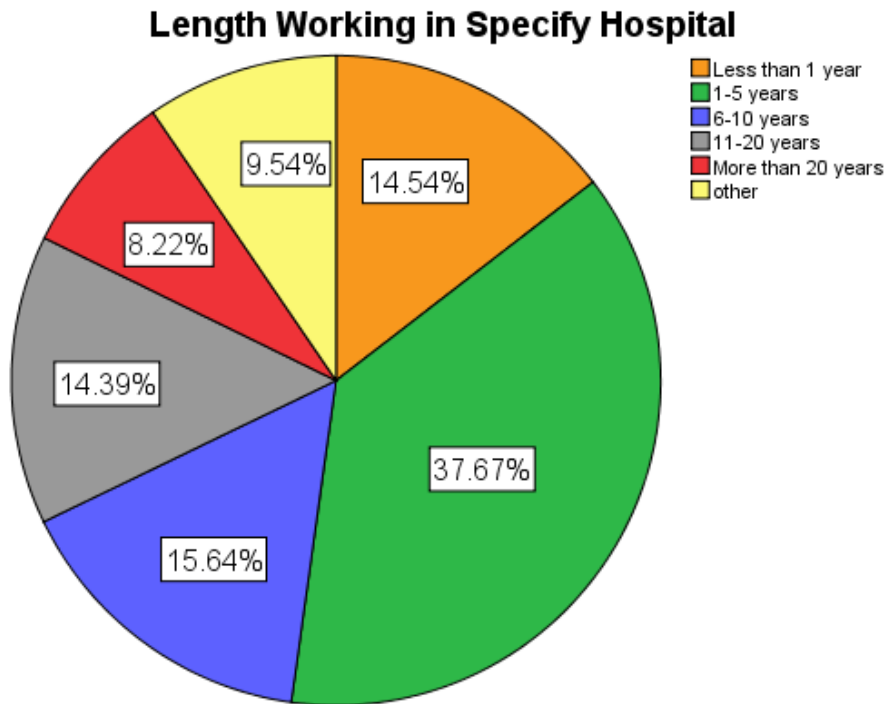


Figure 3c: The ethnicity breakdown of participants

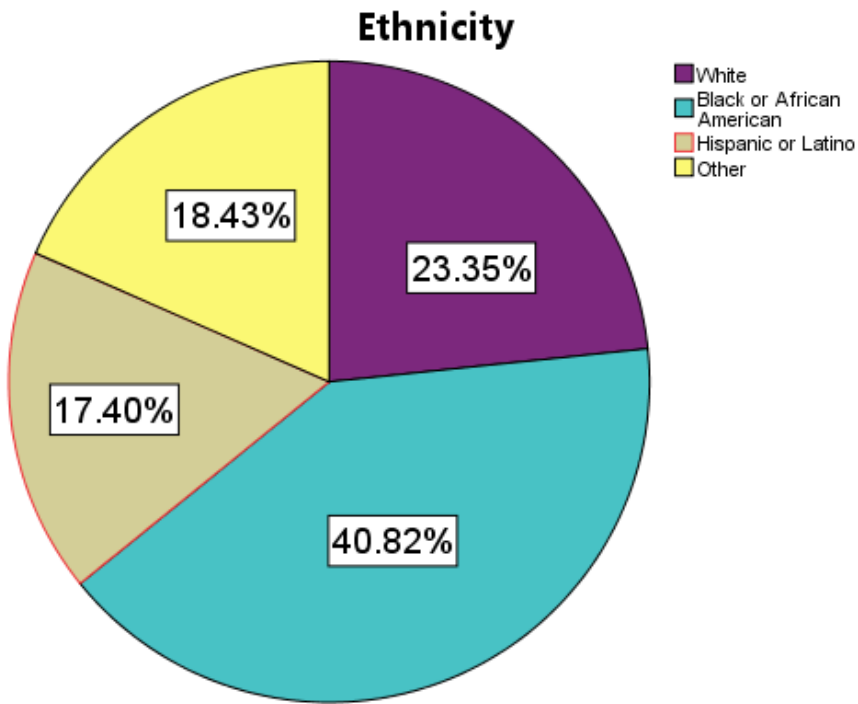
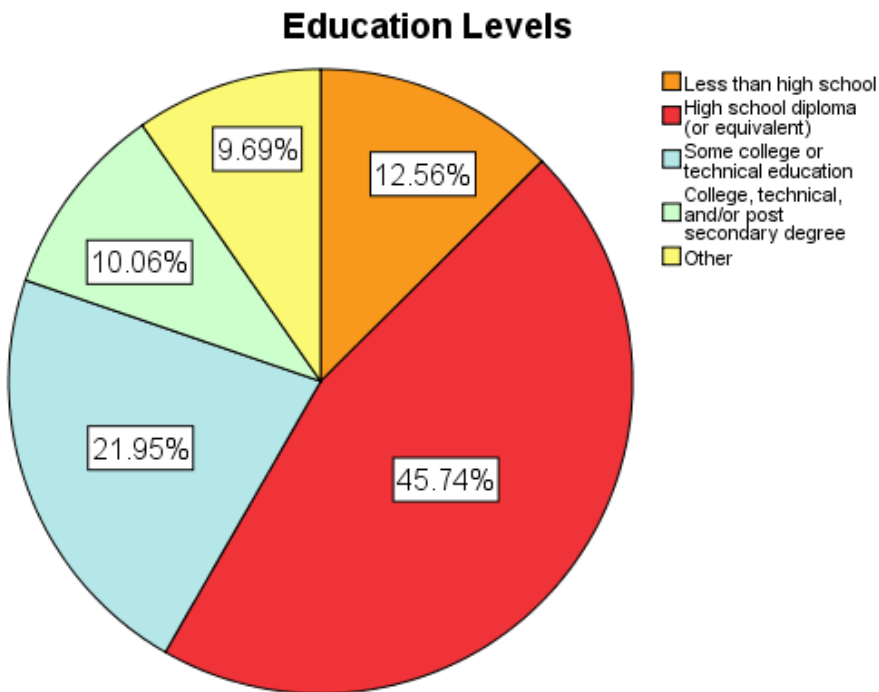


Figure 3d: The education levels of participants



References:

Attridge, M. (2009). Measuring and managing employee work engagement: A review of the research and business literature, *Journal of Workplace Behavioral Health*, 24: 4, 383 — 398

Chiaburu, D. S., and Harrison, D. A. (2008). Do peers make the place? conceptual synthesis and meta-analysis of coworker effects on perceptions, attitudes, OCBs, and performance. *Journal of Applied Psychology*, 93(5), 1082-1082-1103. doi:10.1037/0021-9010.93.5.1082

Clark, A.E. (1997). Job satisfaction and gender. Why are women so happy at work?. *Labor Economics* . 341–372.

Crawford, E. R., LePine, J. A., and Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology*, 95(5), 834-848. Retrieved from <http://search.proquest.com/docview/763257247?accountid=13158>

Cropanzano, R, Howes, J.C., Grandey, Initials, and Toth, P. (1997). The relationship of organizational politics and support to work behaviors, attitudes, and stress. *Journal of Organizational Behavior*, 18(2), 159-180.

Ducharme, L.J. and Martin, J.K. (2000) ‘Unrewarding work, coworker support, and satisfaction: a test of the buffering hypothesis’, *Work and Occupations* 27(2): 223–43.

Eisenberger, R., Stinglhamber, F., Vandenberg, C., Sucharski, I., and Rhoades, L., (2002). Perceived supervisor support: contribution to perceived organizational support and employee retention. *Journal of Applied Psychology*, 87 (3), 565-573

Ferketich, S. (1990). Focus on psychometrics: Internal consistency estimates of reliability. *Research in Nursing & Health*, 13, 437–440

George, D., and Mallery, P. (2009). *SPSS for Windows step by step: A simple guide and reference. 17.0 update* (10th ed.). Boston: Allyn& Bacon.

Griffin, M. A., Patterson, M. G., and West, M. A. (2001). Job satisfaction and teamwork: The role of supervisor support. *Journal of Organizational Behavior*, 22 (5), 537-550. Wiley Interscience. Retrieved from <http://eprints.aston.ac.uk/4253/>

Harter, J., Schmidt, F., and Keyes, C. (2002). Well-Being in the workplace and its relationship to business outcomes: A review of the gallup studies. *American Psychological Association*. Washington, D.C.

U.S Health Department of Health and Human Services, Centers for Disease Control and Prevention. (2009). *About the National Nursing Home Survey*. Retrieved from http://www.cdc.gov/nchs/nnhs/about_nnhs.htm

U.S Health Department of Health and Human Services, Centers for Disease Control and Prevention. (2010). *About the National Nursing Home Survey*. Retrieved from <http://www.cdc.gov/nchs/nhhas.htm>

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692. Retrieved from <http://search.proquest.com.ezaccess.libraries.psu.edu/docview/199783385?accountid=13158>

Kong, Y. (2009). A study on the job engagement of company employees. *International Journal of Psychological Studies*, 1(2), 65. Retrieved from <http://search.proquest.com/docview/840751735?accountid=13158>

Little, B., and Little, P. (2006). Employee engagement: conceptual issues. *Journal of Organizational Culture, Communication and Conflict*, 10(1), 111. Retrieved from <http://search.proquest.com/docview/216594236?accountid=13158>

Macey, W.H. and Schneider, B. 2008. The meaning of employee engagement. *Industrial and Organizational Psychology*, 1: 3-30.

Markos, S., and Waltair, V. (2010). Employee engagement: The key to improving performance. *International Journal of Business and Management*. 5 (12), 89-96

McNeese-Smith, D. (1997). The influence of manager behavior on nurses' job satisfaction, productivity, and commitment. *The Journal of Nursing Administration*. 27 (9), 47-55.

Mynatt, P., Omundson, J., Schroeder R., and Stevens, M. (1997). The impact on anglo and hispanic ethnicity, gender, position, personality and job satisfaction on turnover intentions: A path analytic investigation. *Critical Perspectives on Accounting*. 8 (6), 657-683

Robertson, I. and Cooper, C. (2009). Full engagement: the integration of employee engagement and psychological wellbeing. *Leadership and Organizational Development Journal*. 31(4), 324-336.

Robinson, D., Perryman, S. and Hayday, S. (2004), *The Drivers of Employee Engagement*, Institute for Employment Studies, Brighton.

Rothman, K.J., and Greenland, S. (2005). Causation and casual inference in epidemiology. *American Journal of Public Health*, 95(S1), S144-S150.

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600. Retrieved from <http://search.proquest.com/docview/215867758?accountid=13158>

Schaufeli, W., Salanova, M., Gonzalez-Roma, V. and Bakker, A. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71-92.

Schaufeli, W.B., and Bakker, A.B. (2003). *Test manual for the Utrecht Work Engagement Scale*. Unpublished manuscript, Utrecht University, the Netherlands. Retrieved from <http://www.schaufeli.com/>

Schaufeli, W.B., Bakker, A.B., and Salanova, M. (2006). The measurement of work engagement with a short questionnaire. A cross-national study. *Education and Psychological Measurement*, 66, 701-716. Doi:10.1177/0013164405282471.

Seppälä, P., Mauno, S., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A., and Schaufeli, W. (2008). The construct validity of the utrecht work engagement scale: multisample and longitudinal evidence. *Journal of Happiness Studies*, 10(4), 459-481. Retrieved from <http://www.springerlink.com/index/10.1007/s10902-008-9100-y>

Sorra, JS, & Nieva, VF. U.S Department of Health and Human Services, Agency for Healthcare Research and Quality.(2004). *Hospital survey on patient safety culture* (04-0041). Rockville, MD: Retrieved from <http://www.ahrq.gov/qual/patientsafetyculture/usergd.htm>

Towers-Perrin. (2003). *Working today: Understanding what drives employee engagement*. Stamford, CT

Tucker, S., Chmiel, N., Turner, N., Hershcovis, M. S., and Stride, C. B. (2008). Perceived organizational support for safety and employee safety voice: The mediating role of coworker support for safety. *Journal of Occupational Health Psychology*, 13(4), 319-319-330. doi:10.1037/1076-8998.13.4.319