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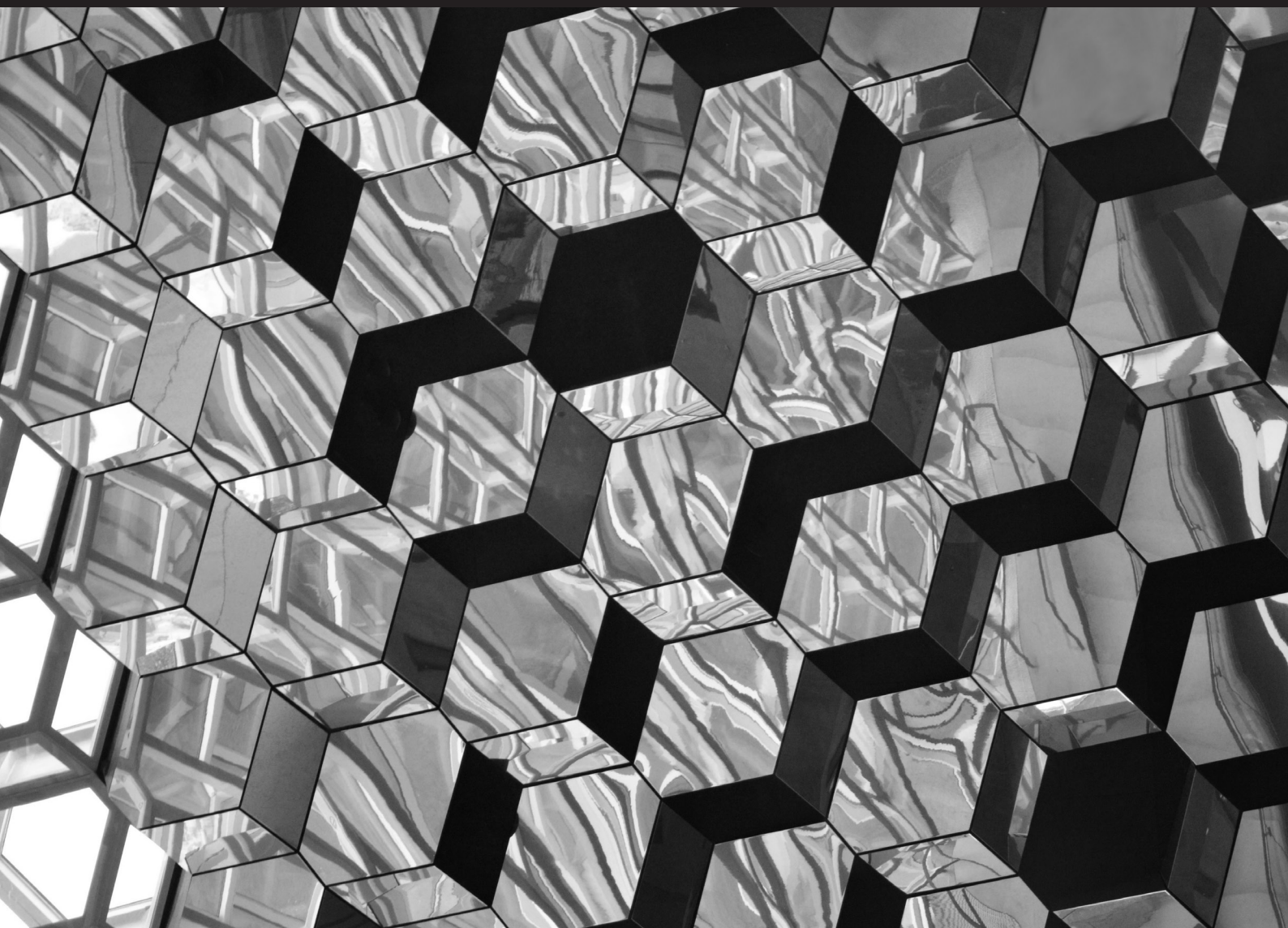**IAFOR Journal of Psychology & the Behavioral Sciences**

Volume 2 – Issue 3 – Winter 2016

Edited by Dr Sharo Shafaie and Dr Deborah G. Wooldridge

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Introduction

We are pleased to introduce you to our winter 2016 issue. Overall, the *IAFOR Journal of Psychology & the Behavioral Sciences* covers a variety of topics about applications of psychological theories and principles in educational settings, improvement of mental health conditions, human development, psychological outreach services and community development, family studies and professional practice, as well as articles addressing the needs of at-risk children, youth and families, and vulnerable populations.

The journal is an internationally peer reviewed and editorially independent interdisciplinary journal associated with The International Academic Forum's conferences on Psychology & the Behavioral Sciences. This issue is devoted to several interdisciplinary studies which represent diverse topics, cultures, and disciplines in the fields of psychology and the behavioral sciences. All papers published in the journal have been subjected to the rigorous and accepted processes of academic peer review. Some of the articles are original submissions and some are significantly revised versions of previously presented papers or published reports in IAFOR's conferences and proceedings.

We would like to express our deep appreciation to all reviewers for taking time from their busy schedules to review each assigned manuscript, offer their professional expertise, and make recommendations for improvement of these published manuscripts. Also, we would like to take this opportunity to acknowledge the hard work of our support staff at IAFOR who were involved in the publication of this journal.

Please note that we are seeking manuscripts for our upcoming spring and summer 2017 issues. Below is the link to the journal's webpage for your attention; please review this webpage to become familiar with the journal's objectives and the submission guidelines for authors:

jopbs.iafor.org

If you have any questions, please do not hesitate to contact us. Otherwise please send your manuscript to the journal's editors below. Thank you for considering this invitation and we look forward to hearing from you soon.

Best regards,

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Editors, *IAFOR Journal of Psychology & the Behavioral Sciences*

Comparison of Mental Health and Quality of Life between Shift and Non-shift Employees of Service Industries

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Abstract

This study examined the relationship between the employment practices and employees' mental health and quality of life in Iran. In particular, the study compared the mental health and quality of life of shift and non-shift workers in sensitive employment settings. Using a cross-sectional survey design, 120 individuals employed in two airline companies as either shift or non-shift employees completed the survey for the study. Data was collected using General Health Question (GHQ28) for mental health, the Short Form (36) Health Survey (SF-36) for Quality of Life and a demographic questionnaire. Multivariate analysis of variance (MANOVA) was used to analyze the collected data. The results showed that (1) type of work (shift or non-shift) has an effect on mental health and quality of life; and (2) there are significant differences in dimensions of quality of life and mental health between shift and non-shift staff.

Keywords: mental health, quality of life, shift work, service industry

For many people work is very fulfilling and associated with better mental health and less substance abuse. However, work environment and the nature of the work being performed itself have been implicated as significant factors in many mental health-related problems (Thayer et al., 2010; Woo & Postolache, 2008). For example, mental health issues such as depression, anxiety, stress and sleep disorder are more common among many workers than the general population, especially in service industries (Harrington, 2001). In particular, extreme work conditions, hectic work activities, stressful working hours and toxic workplace relationships with peers and superiors, affect the mental health of many employees (Thayer et al., 2010). The International Labor Organization (ILO) reports that individuals employed in service industries are more likely to experience mental health problems than individuals employed in non-service industries (International Labor Organization, 2011).

Previous studies have reported that employees' mental and emotional problems constitute a source of significant medical costs to employers, increased absenteeism, disability, and reduced overall productivity (Goetzel et al., 2004). Recent reports show that employees' mental health and substance abuse problems cost employers an estimated $80 to $100 billion in indirect cost (Center for Disease Control, 2013). Similarly, the nature of work and work experiences of employees have been associated with their overall quality of life (QOL) (Gigantesco & Giuliani, 2011; Martel & Dupuis, 2006: Raj Adhikari & Gautam, 2010). It is proposed that QOL covers employees' feelings about the work environment, job content, benefits, work-life balance and support of colleagues and supervisors (Raj Adhikari & Gautam, 2010). Employees that have a poor QOL are more likely to have high job dissatisfaction, and engage in turnover intent behavior or actual turnover (Mohammad-Mosadeghrad, 2013).

Researchers have observed that shift work or shift-employment is common in many industrialized and emerging economies, and is an essential component of employment patterns in several industries (AlMetrek, 2014; Asaoka et al., 2012). In many industries, traditional employment (40 hours per week, hours 9 am to 5 pm) is complemented by such work arrangements as shift work, part-time work and teleworking. Shift work is any type of work which is done outside the normal hours (7 am to 6 pm) (Wang, Armstrong, Cairns, Key, & Travis, 2011). In the United States, almost 17% of full-time workers in service jobs (such as health care and transportation) are working shift jobs, whereas 15-45% of the workforce is permanently employed in shift work (Lee, McCann, & Messenger, 2007). Even in many developing countries, shift work is the dominant form of employment (Lee et al., 2007). For instance, in Senegal, 89% of workers are employed as shift workers; this contrasts sharply with 36.1% in China or 14% in the United Kingdom (Lee et al., 2007).

Previous studies have emphasized the disruptive effects of shift-work on the physical and mental wellbeing of workers (Kaliterna, Prizmic & Zganec, 2004; Mokarrami et al., 2010). In general, the effects of shift working on people are divided into two categories: the reduction of good physical and mental health because of interference with the body's natural rhythm, and the disruption of social and family life (Kaliterna et al., 2004). Results from studies on it suggests that shift work, particularly working at night, has a significant impact on a person's physical performance and is sometimes associated with mental stress, mood disorders, weight problems and other psychological factors (AlMetrek, 2014). Consecutive sleep deprivation or interrupted sleep impacts concentration, attention and the ability to think properly (Mokarami et al., 2010). In addition, shift work also creates problems with family life, such as strained communication, and discordance with the spouse's working hours and free time (Kaliterna et al., 2004).

Shift work and mental health

Mental health and employee well-being is important in organizations because of the associated implications: improved employee relationships, stress control at work, reduced absenteeism of employees and unpredictable accidents in the workplace, reduced mental and physical illness, increased productivity of human resources, and improved labor efficiency (Mokarami et al., 2010). Employees who work night shifts have been reported to experience excessive tiredness, sleep disturbance, excessive sleepiness, impatience, mood changes and burnout (Asaoka et al., 2013). Studies have found that shift work adversely impacts mental health and quality of life of shift workers. Soleimany et al. (2008) compared fixed shift nurses and non-fixed shift nurses, and showed that 72.3% of fixed-shift nurses have favorable health, 18.8% have somewhat favorable health, and 81.8% unfavorable health. However, among non-fixed shift nurses, 62.3% have favorable health, 26.2% have somewhat favorable health, and 11.5% have unfavorable health. The results showed that fixed-shift nurses had a better general health than non-fixed-shift nurses. Nurses who were required to work in three shifts on a rotating basis and without preplanning to work earlier than others suffered from several medical ailments.

Almondes and Araujo (2009) evaluated anxiety and stress in workers under different shift work conditions (divided into fixed daytime working and different working shifts). Their results showed that shift workers had higher State-Trait Anxiety scores than fixed daytime workers. In addition, both fixed daytime employees and shift workers exhibited stress. The researchers also found that shift work schedules caused more situational and dispositional anxiety, but did not significantly increase stress levels when compared to fixed-daytime working (Almondes & Araujo, 2009).

Similarly, Amini (2006) examined the relationship between job stress, shift work and the efficiency of nurses working in teaching hospitals in Tehran. The study's results showed that, although shift work does not significantly affect efficiency, overall individuals had higher job stress. Furthermore, Homayounfar (2001) found that 23.2% of nurses who were engaged in shift work were involved in accidents or injury caused by sleepiness. Homayounfar also found that 92.7% of those accidents and 87% of medication errors occurred during night shifts. Fouladi (1996) did not find a significant relationship between shift work and depression, although there was a significant correlation between working night shifts and having depression. Mohajer (1987) found that night-shift nurses on rotation had more anxiety than those with a fixed schedule.

Jaradat, Khaldoun and Espen (2010) conducted a study to identify the impact of shift work on the mental health of nurses working in a hospital in Hebron at Palestine. The researchers compared two different work shifts at the hospital, fixed-shift work and rotation shift work. The sample included 422 nurses, of whom 261 were female and the rest were male. The results showed that, compared to men, women working rotation shifts had lower mental health and happiness ($p < .04$). In general, regardless of gender, the mental health of nurses working in rotating shifts is lower than those nurses who work in fixed shifts. Teran (2008) showed that NASA employees who slept 4 to 5 hours on average daily were able to adapt themselves to circadian rhythm. In addition, Teran (2008) found that sleep is important because lack of sleep causes indiscriminate naps when full consciousness is necessary. He concluded that people's awareness of circadian rhythm and its role in the physiological body can be very useful. The results also showed that individuals who work late shift and midnights (12 pm to 6 am) experienced high stress.

Shift employment and employees' quality of life

Previous work has associated shift employment with a number of negative QOL indicators such as decreased family life and marital satisfaction, and higher rates of divorce (Bara & Arber, 2009; Strzemecka, Bojar, Strzemecka, & Owoc, 2014). Bara and Arber (2009) examined the impact of shift work on mental health at the population level using longitudinal data (1995-2005) from the British Household Panel Survey. The study found that undertaking night work for > or =4 years in men was associated with an increased risk of having poor mental health and anxiety/depression. In addition, it was found that women were significantly more likely to report anxiety/depression and have poor mental health after working varied shift patterns for 2-3 years and >/=4 years respectively (Bara & Arber, 2009). However, Berthelsen, Pallesen, Bjorvatn and Knardahl (2015) did not find any association between shift work and anxiety or depression. However, Strzemecka et al. (2014) reported that shift workers who are married or have families are further affected in their inability to meet their parental or spousal demands due to the work cycle. In many instances, children of parents who are engaged in shift work often go for days on end without some form of social interaction or family time with their loved ones. In addition, it was observed that communication between parents and children or between spouses becomes strained as a result of the lack of regular interactions (Strzemecka et al., 2014).

A study by Kaliterna et al. (2004) examined QOL, life satisfaction and happiness in shift and non-shift workers; their findings revealed that shift workers reported lower QOL in spiritual matters than non-shift workers. The authors also reported that shift workers found less enjoyment in satisfying their personal values and standards than non-shift workers. Furthermore, the parent or partner that is constantly away from home as a result of shift work often experienced mixed emotions such as guilt, anger and other forms of emotional difficulties that further exacerbated the decline of their mental well-being and overall quality of life (Kaliterna et al., 2004). Finally, the findings of a cross-sectional study conducted by Shao, Chou, Yeh and Tzeng (2010) on 435 female nurses from five regional hospitals in Taiwan showed that the majority of shift workers (57%) suffered from poor sleep quality, low QOL, premenstrual dysphoria, occupational injury, illness and excessive medication use.

Objectives of the study

Iran is a society of the Middle East. Recent estimates conservatively place the population of Iran at approximately 79 million (Statistical Center of Iran, 2016). More than 71% of that population lives in urban areas (Rahimi-Movaghar et al., 2014). In Iran, as in many developing countries, shift working is rapidly expanding across all industry settings because of the need to increase the production of goods and the provision of 24-hour service (Mokarrami, Kakoei, Dehdashti, Jahani & Ibrahim, 2010); however, there are no exact statistics on the number of employees working in shift employment (Mokarami, et al., 2010).

Incidence of problems of mental health among the general population of Iran is reported to be around 27.2% (Rahimi-Movaghar et al., 2014). In addition, work-related mental health problems are common, especially in major industrial settings in Iran (Mokarami et al., 2010). More importantly, shift work has been identified as a risk factor for mental health and reduced quality of life (Bazazan et al., 2014). Previous studies conducted in Iran have examined the relationship between demographic factors, fatigue, psychological distress, and mental disorder among shift workers (Bazazan et al., 2014; Rasoulzadeh, Bazazan, Safaiyan, & Dianat, 2015), health effects associated with shift work (Choobineh, Soltanzadeh, Tabatabaee, Jahangiri, &

Khavaji, 2012) and sleepiness, fatigue, and accidents among workers employed in shift work (Halvani, Zare, Mirmohammadi, 2009). However, none of these studies has compared the mental health and quality of life between shift and non-shift workers. The current study addresses this gap by comparing the mental health and quality of life between shift and non-shift workers in two service industries in Iran.

The following hypotheses guided the research study:
1. There are differences in mental health between shift and non-shift employees.
2. There are differences in the types of mental health problems between shift and non-shift employees.
3. There are differences in quality of life between shift and non-shift employees.

Methods

Participants and settings
The study was cross-sectional and used survey instruments for the collection of data (Dillman et al., 2009; Gray, Williamson, Karp & Dalphin, 2007). Cross-sectional studies permit the estimation of the prevalence of the outcome of interest for a given population at a point and over a period of time (Gray et al., 2007). Recruitment of participants for the study was done through the human resources department of two Iranian Airlines. The first company is a wholly government-owned airline with 7,500 employees, it is also the oldest airline in the Middle East and operates services to 58 destinations. The second company is a private airline based in Tehran, Iran with over 2,511 employees. It operates scheduled domestic services and international flights to the Far East, Middle East, Central Asia, and Europe.

Procedures
Approval was sought from the ethical review board of Islamic Azad University, Roudehen and the two service companies before starting the study. Following the approval of the study by the companies, information requesting participation for the study was posted on the companies' notice boards to solicit participation for the study. Participants were directly recruited during staff meetings; interested employees were given a copy of the survey to complete and return to the human resources department. Of the 140 surveys given out, 132 were completed and returned. However, 12 were not completed properly and were therefore removed. Thus, 120 respondents successfully completed and returned the survey. Of the 120 completed surveys, 60 respondents indicated that they were shift-jobs employees, whereas 60 were non-shift-employees.

Research instruments
The first instrument for the study is the General Health Questionnaire (GHQ28: Goldberg, 1978). The GHQ28 was developed as a screening tool to detect individuals that are likely to have or to be at risk of developing psychiatric disorders (Sterling, 2011). Previous investigations (e.g. Robinson & Price 1982) of the reliability and validity of the scores of the items of the GHQ28 have shown a high test-retest reliability (0.78 to 0 0.9). In addition, interrater and intra-rater reliability have both been shown to be excellent (Cronbach's α 0.9–0.95) (Failde & Ramos 2000). The instrument contains 28 items, and measures emotional distress in medical settings. The GHQ-28 has four subscales: somatic symptoms (items 1–7); anxiety/insomnia (items 8–14); social dysfunction (items 15–21), and severe depression (items 22–28) (Goldberg, 1978; Sterling, 2011). Examples of some of the items include 'Have you found everything getting on top of you?', 'Have you been getting scared or panicky for no good reason?' and 'Have you been getting edgy and bad tempered?' Each item is accompanied by

four possible responses: 'Not at all', 'No more than usual', 'Rather more than usual', and 'Much more than usual' (Sterling, 2011). Items on the questionnaire were scored using a binary approach where 'Not at all', and ''No more than usual' score (0), and 'Rather more than usual' and 'much more than usual' score (1). Using this method, any score above 4 indicates the presence of distress (Sterling, 2011).

The second instrument used in the study, the SF-36 (Ware & Sherbourne, 1992), measures Health Related Quality of Life (HRQOL). The SF-36 includes eight components: (1) physical functional limitation due to health problems, (2) usual limited role in life due to physical health problems, (3) physical pain, (4) mental health (mental and emotional stress or distress), (5) usual role limitations due to a person's life or emotional issues, (6) fatigue or vitality, (7) general opinion about health, and (8) restrictions causing problems in social functioning due to physical and mental health. The survey can be self-administered by persons 14 years of age and older, or by a trained interviewer (Ware & Sherbourne, 1992). Since 1996, the validity and reliability of this questionnaire has been examined by the World Health Organization (WHO) in different countries and cultures. The internal consistency of the instrument has been reported to be .90 (Williams, 2000). All items are scored on a range of 0-100, so that a high score defines a more favorable health state. Items in the same scale are averaged together to create the 8 scale scores (Ware & Sherbourne, 1992).

In Iran, a study was carried out to determine the reliability and validity of the international and Persian versions of the SF-36 instrument (Jafari, Lahsaeizadeh, Jafari, & Karimi, 2008). The instrument was translated and used with individuals 15 years and older. The collected data was tested for internal consistency, validity and convergence validity. Scores on the instrument showed an internal consistency of .65. The other reliability measures showed coefficients ranging between .77 and .90. Consequently, it was concluded that the Farsi version of the SF-36 was adequate for the measurement of quality of life.

Results

Description of participants
The Multivariate analysis of variance (MANOVA) was used to analyze collected data. Specifically, a one-way MANOVA was conducted to determine the effect of the factor-type of work (Shift or Non-Shift employment) on two dependent variables (mental health and QOL scores). The test was conducted at (0.05) significance level.

There were 120 participants in this study. Of the 120 participants, 70 (58.3%; n = 22 shift, 38 non-shift) were married, whereas 50 (41.7%; n = 38 shift, 12 non-shift) were unmarried. In terms of educational qualification, 55 (91.6%) non-shift workers had a high school certificate, whereas 5 (8.3%) had an undergraduate degree. Among shift workers, 58 (96.7) had a high school certificate and 2 (3.3%) had an undergraduate degree. Individuals earning more than 700,000 Tomans, which is equivalent to about $23.09 (Tomans is the official Iranian currency), were more likely to be in the shift group (n = 48, 80%), than non-shift (n = 20, 33.3%).

With regard to the first hypothesis: there are differences in mental health between shift and non-shift staff. A one-way MANOVA revealed a significant multivariate main effect for region, Wilks' λ =. 894, $F(4, 115) = 3.4$, $p < .001$, as shown in Table 1. In particular, the non-shift group (M = 11.7; SD = 4.08) on average had a slightly higher score than the shift group (M = 10.74; SD = 4.71).

Effect	Statistics	Value	F	hypothesis df	Error df	Sig.
Job Type	Pillai's Trace	0. 106	3. 42	4	115	.001
	Wilks Lambda	0. 894	3. 42	4	115	.001
	Hotelling's Trace	0. 119	3. 42	4	115	.001
	Roy's Largest Root	0. 119	3. 42	4	115	.001

Note: α =.05

Table 1: Multivariate test for difference in mental health between shift and non-shift staff

Testing of the second hypothesis focused on determining if there were any differences in the types of mental health problems between shift and non-shift employees. Table 2 reflects the results of univariate two sample t-tests employed to assess the difference in means between the two groups (Shift vs Non-Shift) for mental health services. As depicted in the table, there are statistically significant differences (at the $p < 0.05$ level) between the two groups in terms of depression and anxiety only. There was no statistically significant difference, $p > .05$, between the two groups for both social dysfunction, hypochondria and somatic disorders.

Mental Health	Total Shift	Total Non- Shifts	t	Df	Sig.
Depression	1.1	0.78	2. 34	118	0.02
Anxiety	0.5	0.78	3. 56	118	0.01
Social dysfunction	1.1	1.54	1. 54	118	0.12
Hypochondria	0.64	1.56	1. 56	118	0.12

Note: α =.05

Table 2: T-test comparing shift and non-shift workers on dimensions of mental health

Table 3 below shows the results of a one-way MANOVA test with respect to quality of life between shift and non-shift employees. The results showed a non-significant multivariate main effect for region, Wilks' λ =. 893, F (8, 111) = 1.7, p <.116. Thus, hypothesis 3 was not confirmed.

Effect	Statistics	Value	F	Hypothesis Df	Error df	Sig.
Job Type	Pillai's Trace	0. 107	1.66	8	111	0.11
	Wilks Lambda	0. 893	1.66	8	111	0.11
	Hotelling's Trace	0. 120	1.66	8	111	0.11
	Roy's Largest Root	0. 120	1.66	8	111	0.11

Note: α =.05

Table 3: Multivariate test for difference in quality of life between shift and non-shift staff

Table 4 shows the results of t-tests to determine the difference in quality of life between shift and non-shift staff. The results showed that there were no significant differences in physical functioning and general health among shift and non-shift staffs. However, typical life role limitation as a result of physical health problems, anxiety, fatigue or vitality, emotional health, and social functioning were significantly different among the two groups ($p < .05$).

Quality of Life	Total Shift	Total Non-Shifts	t	Df	Sig.
Physical functional	71	78.8	1.93	118	0. 50
Usual limited role in life due to physical health problems	44.92	67.4	3.23	118	0. 00
Usual limited role in life due to anxiety	47.92	64.3	2.20	118	0. 03
Fatigue or vitality	54.24	64.9	2.79	118	0. 00
Emotional health	59.1	68.3	2.63	118	0. 01
Social functioning	58.2	69.6	2.54	118	0. 01
Pain	64.3	75.4	2.45	118	0. 01
General health	56.6	62.7	1.78	118	0. 08

Note: α =.05

Table 4: T-test comparing quality life of shift and non-shift staff

Discussion

The results of the study with regard to the first hypothesis showed that mental health was significantly different among shift and non-shift staff. The mental health of shift staff was better than that of non-shift staff. We find, as did previous studies (Amini, 2006; Bara & Arber, 2009; Berthelsen et al, 2015), that engaging in shift work, especially for a prolonged period, resulted in poor mental health. Berthelsen et al. (2015) indicated that the impact of shift work on mental health occurs through three pathways: (1) disruption of the circadian rhythm, which disrupts neurohumoral systems, and ultimately mental health; (2) sleep deprivation; and (3) difficulties with meeting personal and family demands. Carrying this observation to the airline employment context as done in this study provides a basis for how shift work should be organized, taking into consideration, the effects that it might have on employee physical and mental wellbeing. Relative to mental health, Costa (2015) suggested that an important consideration may be designing the work roster carefully, and providing the necessary support to employees in the workplace. Specifically, organizations and work environments that provide the right design for shift work (shift length, schedule format, on-off work pattern, and overtime, scheduling policies) are more likely to have employees with better mental health.

Evidence that shift workers and non-shift workers differ significantly on depression and anxiety parameters is consistent with the results of several studies (Almondes & Araujo, 2009; Homayounfar, 1998; Mohajer, 1987). Almondes and Araujo (2009) found that shift workers had higher state-trait anxiety scores than those of fixed daytime workers. Specifically, shift work caused situational and dispositional anxiety for persons engaged in shift employment. However, we did not find a significant difference between shift and non-shift employees in hypochondria and social dysfunction. This evidence is in line with the finding by Fossum, Bjorvatn, Waage, and Pallesen (2013) that there were no significant differences between offshore shift workers and onshore non-shift workers in social dysfunction. Rasoulzadeh et al.

(2015) indicated as much, and noted that social dysfunction may be only related to physical and mental fatigue and reduced activity. It is likely that social dysfunction may likely be a consequence of differences in personality, or family composition and relationship. The result of the study also showed that there was no significant difference in hypochondria between shift and non-shift workers. This can be interpreted to mean that concerns about ill-health among workers in airline industries may not be significantly different. Given that the work setting in the airline industry is generally stressful, it is likely that, regardless of their work schedule, employees are prone to exhibit hypochondria.

The results also showed that there was a significant difference in QOL between shift and non-shift workers. In particular, there were significant differences in several domains of QOL (physical, emotional, social and psychological) between shift and non-shift employees. This is consistent with the results of Kaliterna et al. (2004) which found that shift work negatively influenced workers' quality of life, in terms of lack of regular contact with family members, irregular eating and sex life, and overall deterioration of family life.

Limitations
Although the findings of the study provide useful insight into the relationship between shift employment, mental disorders, and quality of life, these should be utilized within the constraints that the sample size was small and self-reported assessments were used. The present study was cross-sectional in design, and therefore no causal inferences can be drawn. In cross-sectional studies, a large sample size is required to establish a relationship between variables (Johnson & Christensen, 2008). Secondly, self-report data and results from the present study must be looked at with caution because of the tendency of respondents to present themselves in a socially desirable manner (Kazdin, 2003). A qualitative study design, or mixed method with in-depth interviews, would have provided more robust information about the relationship between the variables. Additional research, using a larger sample and more measures, should be carried out to validate or provide more insight into the relationship among these variables.

Implications
The results of the current study have implications for supervisors of shift workers, human resources personnel, and mental health practitioners. Given the findings on the relationship between shift work and several physical and mental health components, an important consideration for many large organizations, including airline industries, is to provide employee support systems that have the capacity to recognize and address mental health-related problems that arise out of the employment context.

The present study used a cross-sectional survey design to examine the differences in mental health and QOL between shift and non-shift employees. The sample comprised 120 workers employed in two service companies. The results of the study support the general observation that the nature of work has deleterious physical and mental health consequences in many employment settings. We also provide evidence that engaging in shift work significantly affects employees' mental health and overall quality of life. Our work suggests that there is a significant difference in the mental health functioning and overall quality of life between shift and non-shift employees. In particular, shift workers are more likely to experience anxiety, depression and report reduced QOL in several domains (physical, emotional, social and psychological) compared to non-shift workers.

Ideally, companies should try to provide a better work environment for every employee; also, addressing the mental health and quality of life issues that result from its impact on employees

should be a priority for organizations. As the incidence of mental health-related issues continues to increase among workers in Iran and other developing countries, it is vitally important for leadership in strategic industries to pay specific attention to the relationship between working conditions, employees' mental health and quality of life, and their overall productivity. Specific information on the impact of shift work on the mental health and QOL among shift and non-shift workers can help employers and leaders in these organizations create the necessary support systems needed to assist their employees in maintaining a healthy work life.

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Job Stress and Police Burnout: Moderating Roles of Gender and Marital Status

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Abstract

Previous studies on occupational burnout among police personnel did not pay enough attention to how gender and marital status may influence the connection between job stress and occupational burnout, especially where cultural beliefs direct gender and marital issues in relation to work, such as Nigeria. This study, therefore, investigated the extent to which gender and marital status moderate the relationship between job stress and occupational burnout. Participants were 213 police personnel (male = 120; female = 93) selected from 10 urban and 10 semi-urban police divisions in Nigeria. Their ages ranged between 20 and 54 years (M_{age}=38.15 years; SD =10.0). Results revealed that job stress significantly predicted occupational burnout such that an increase in job stress led to increase in the level of occupational burnout. Gender moderated the effects of job stress on occupational burnout in such a way that job stress tended to result in higher level of occupational burnout in female than in male police personnel. Similarly, marital status moderated the relationship between job stress and occupational burnout in such a way that police personnel who were married tended to report higher level of occupational burnout in the presence of job stress than those who were single. Implications for gender sensitivity and family supportiveness were discussed.

Keywords: job stress, burnout, gender, marriage, police, Nigeria

Occupational burnout, which refers to the extent to which employees experience emotional, physical exhaustion and reduced personal accomplishment (Maslach & Schaufeli, 2001), has been associated with job stress (Iroegbu & Nwaogwugwu, 2012), especially in human service occupations such as police (Wang, Zheng, Hu & Zheng, 2014). Concern about health of police personnel has dominated the focus of research in recent time (Adegoke, 2014; Avdija, 2014; Parsekar, Singh & Bhumika, 2015) probably because policing has been appraised as one of the high-risk occupations (Russell, 2014). The concern may be connected with the fact that occupational burnout is not only injurious to the employees but also the individuals who are recipients of their services (Xie, Wang & Chen, 2011). Occupational burnout may, therefore, adversely affect the functionality of police personnel in investigating, detecting, and managing crime, especially in Nigeria where inadequate facilities hamper effective policing (Brownson, 2012; Chinwokwu, 2012).

In recent times, Nigeria has been confronted with huge security challenges, exacerbated by increasing urbanization, population, inequality, unemployment, terrorism, migration and internal displacement, and criminal activities (Owen, 2014). These security challenges are currently compounded by sectional, religious, ethnic, and political crises, which may have serious implications for the well-being of the citizens and the socio-economic development of the country. For example, the security challenges in Nigeria's oil-rich Niger Delta Region are delivering a debilitating blow to the country's monolithic economy, which relies majorly on oil (Gonzalez, 2016; IMF, 2013). This may not only have an adverse effect on the country's oil production and economy but also on the price of oil in the world market. Since investors may not only be concerned about return on investment but also about the security of their investments, without adequate security of lives, property, and investment, Nigeria may not be able to sufficiently attract and retain local and foreign investments and human capital. Owen (2014) submitted that, despite the existence of other specialized agencies and bodies created to reduce security challenges, the Nigerian society and economy would find it difficult to function effectively and maximally without an effective police force. Therefore, the role of the Nigerian police in fostering internal security and socio-economic development cannot be over-emphasized.

The Nigeria Police Force, which grew from the colonial era, was established in 1930 (with a national outlook) to provide security for lives, property and investments in the country (Alemika, 1997). The level at which Nigeria's police force has met with its obligations has been queried in recent times. The level of functionality of the Nigerian police is being affected by inadequate facilities, training, personnel, and over-centralization of human and material resources (Osuji, 2012; Owen, 2014). In the face of technological constraints and other inadequate facilities, police officers in Nigeria generally rely heavily on their personal crafts to be effective (Owen, 2014). Therefore, as they struggle to meet the increasing security needs of the society, police personnel in Nigeria may be prone to job stress and occupational burnout.

Inadequate facilities and operational demands are two of the major sources of stress for police personnel (Amaranto, Steinberg, Castellano & Mitchell, 2003; Shane, 2010). Lazarus and Folkman (1984) defined job stress as a psychological state that results from perceived negative and threatening imbalance between employees' job condition and their psychological resources for dealing with the job conditions. Moon and Jonson (2012) submitted that high physical demands and life-threatening work conditions, compounded by changing socio-economic and technological conditions and high societal expectations (Deschamps, Pagnon-Badiner, Marchand & Merle, 2003), may expose police personnel to high level of job stress. Job stress may be more pronounced among police personnel in Nigeria because of the acute shortage of

police personnel compared with the population of the citizens they serve. According to Human Rights Watch (2010), the estimated 311,675 police personnel in Nigeria, as of 2008, were securing over 160 million citizens. Based on the United Nation's benchmark of 1 police officer to 400 citizens, Osuji (2012) submitted that there was a shortfall of 70,600 police personnel in Nigeria.

According to Roberts and Levenson (2001) and Wang et al. (2014), the negative imbalance in the police-citizen ratio may be a source of job stress to police personnel, especially in Nigeria (Ogungbamila, 2014a), because the shortfall in police personnel may culminate in work over-load and occupational burnout for the remaining employees (Ogungbamila, 2013). Previous studies (e.g. Wiese, Rothmann & Storm, 2003; Wang et al., 2014) reported a strong positive connection between job stress and occupational burnout, especially when such job-related stress is regard as oppressive and inescapable (Shane, 2010). For example, in a study involving 379 police officers, sampled from multiple police departments in the US, Russell (2014, p. 374) reported that "for every 1 percent increase in perceived stress, respondents reported nearly 12 percent increase in perceived burnout".

The strong connection between job stress and occupational burnout may have serious implications for women police officers, especially with the current call for an increase in the number of women in the police (Akinjobi-Babatunde, 2015). For example, based on a cross-national study that involved 23 police locations in America, Europe, Asia, Australia, and Africa, Prenzler and Sinclair (2013) suggested an urgent need to increase and maximize women participation in policing. According to them, apart from providing a stimulating work experience for women, the presence of women police would reduce reliance on force (Corsianos, 2011) and provide an alternative contact point for victims of crime who may feel uncomfortable with male police personnel (National Center for Women and Policing, 2001). Most countries, including Nigeria, are increasing the percentage of females in their police organizations. In Nigeria, as at 1993 (prior to the National Gender Policy), women constituted only 5% of the total population of the Nigeria Police Force (Akinjobi-Babatunde, 2015). However, with the introduction and implementation of and increasing adherence to the National Gender Policy (which targets, at least, 35% females in Nigeria Police Force), the number of women in the Nigeria Police Force increased to 12.40% in 2010 (Akinjobi-Babatunde, 2015; Ehiemua, 2014).

In spite of the increase in the number of females in the Nigeria Police Force, concern about the effects of job stress on female police personnel has not received adequate attention. Despite the increase in the number of women in paid employment in Nigeria, gender-based norms, which put the responsibility of cooking, cleaning, and caring for the children more on women, have not changed remarkably irrespective of whether the woman is in paid employment or not (Akinwale, 2009; Fawole, 2008; NCAA, 2016; Mudiare, 2013). In addition to their professional duties and the challenges of working in a typical male-dominated profession (Ehiemua, 2014; Martin & Barnard, 2013), women police personnel in Nigeria are also expected to adequately perform their roles as wives and mothers. These dual burdens (NCAA, 2016) may compound the level of job stress and adversely affect the functionality of policewomen in Nigeria and put them at higher risk of occupational burnout compared with their men counterparts. Ogungbamila (2014b) reported that the challenges associated with balancing work and family responsibilities culminated in occupational burnout. For example, female police personnel who are married are expected to balance family obligations with their job roles.

Despite the increasing number of female officers in the Nigeria Police Force and without a corresponding decrease in the socio-cultural responsibilities associated with gender and marriage in Nigeria, less research attention has focused on the roles of gender and marital status in the connection between job stress and police burnout. Therefore, investigating occupational burnout in the context of the professional and socio-cultural responsibilities associated with gender and marriage in Nigeria may present an interesting finding and add to the literature of women policing. The aim of the present study was to determine the extent to which gender and marital status moderate the relationship between job stress and occupational burnout.

Gender differences in job stress have been documented (He, Zhao & Ren, 2005) with mixed results. Some studies (e.g. Russell, 2014) found no significant gender differences in job stress among police personnel. Other studies (e.g. Kurtz, 2012) reported that women police officers generally reported higher levels of job stress than male police officers. In a study involving 1,104 police personnel, He et al. (2005) found that female police officers reported higher levels of job-related stress than male officers. Gächter, Savage and Torgler (2011) found that female police officers reported higher level of physical strain than their male counterparts. They added that though no gender differences in psychological strain, trust and interactional fairness at work significantly reduced the impact of physical strain in males but not in females. Results of other studies that investigated gender differences in stress indicators (such as organizational bureaucracy, community relationships, task identity, and autonomy) generally showed that job stress culminates in higher psychological (Kim, Wells, Vardalis, Johnson & Lim, 2016) and other health challenges for female police officers (Hussain, Sajjad & Rehman, 2014).

As pointed out in Liu, Spector and Shi (2008), gender differences in the perception of job stress may be connected with cultural and social construction of gender role expectations and responsibilities, especially in Nigeria; where gender-related socio-cultural norms still dictate social relations at work and home (Akinjobi-Babatunde, 2015). For example, in Nigeria and other patriarchal or male-dominated societies, gender relations and stereotypes are defined in such a way that women are socialized to be less competitive with low ability to cope with and withstand stress than men (Akinwale, 2009; Fawole, 2008; Mudiare, 2013). This implies that socialization leads to internalization and expression of socially and culturally determined social role of gender, which may not necessarily reflect the biological gender of the individual. Studies have shown that social role of gender was a stronger determinant of job stress than the biological role (Gianakos, 2000). Yu-Chi and Keng-Yu (2010) reported that masculinity and feminity characteristics were not more important than biological sex in employees' perception of job-related stress. They found that employees who showed masculine characteristics reported less job stress than those with feminine characteristics.

Apart from gender, studies have shown that marital status also exerts a strong influence on job stress, with policewomen being more affected than policemen (Kurtz, 2012). This may be because "family life … presents a unique stressor for women officers who are required to manage traditional roles as caregivers and wives" (Kurtz, 2012, p. 73). Since working mothers in Nigeria are still expected to perform their traditional roles alongside their professional duties, policewomen who are married may experience higher levels of job stress than their male counterparts. He et al. (2005) reported that work-family interference was a strong predictor of job-related stress among police personnel. Spill-over of work-family interference may be more pronounced among police personnel who are married than those who are single. In spite of job-related stress and negative work-family interference, female police personnel who have access to adequate social support may not experience adverse effects of job stress that emanate from job demands compared with those who do not have such opportunities (Rivera-Torres, Araque-

Padilla & Montero-Simó, 2013). Studies among police personnel suggest that negative interface between work and family demands increased job stress (Bazana & Dodd, 2013; Louw & Viviers, 2010). In a study involving 533 Polish citizens, Merecz and Andysz (2014) reported that negative interface of work and family demands compounded job stress and culminated in more incidence of occupational burnout.

Studies on gender and marital differences in occupational burnout have presented mixed results (Pines, Neal, Hammer & Icekson, 2011). Merecz and Andysz (2014) found no gender differences in occupational burnout among Polish employees. However, in a cross-cultural study, involving American and Israeli samples, Pines et al. (2011) reported that women reported a significantly higher level of occupational burnout than men. They also found that American employees were the more burned-out compared with Israeli employees. Among police personnel, the situation may not be totally different. This is because Kurtz (2012) found that women police officers reported higher level of job stress than male officers. He reported that marital status exerted a stronger influence on job stress in policewomen, but it had little or no effect on policemen. Since job stress is a strong predictor of occupational burnout in police (Russell, 2014; Shane, 2010; Wang et al., 2014; Wiese et al., 2003), it may not be out of place to assume that female police would experience higher level of occupational burnout than male police. Indeed, Elliot, Garg, Kuehl, DeFrancesco and Sleigh (2015) reported that women law enforcement officers were significantly more burned out than male law enforcement officers, even after adjusting for the effects of marital status and number of children.

In a study conducted among police personnel in Ibadan, Nigeria, Odedokun (2015) reported that police personnel who were married experienced lower level of occupational burnout than those who were not married. This finding may be more applicable to married police officers who have access to adequate social support, which might have helped them to cope with stressful situations including those emanating from the job (Rivera-Torres, 2013). For example, Gächter, Savage and Torgler (2010) reported that social capital (both at work and at home) significantly reduced occupational burnout among police personnel. Hu, Schaufeli and Taris (2016) found that work resources (social and task) were negatively related with occupational burnout in police officers. This implies that though marriage may be a source of stress for women police personnel in Nigeria, it can also be a veritable source of social capital, which may help ameliorate the effects job stress and reduce occupational burnout (Odedokun, 2015).

The job demands-resources model (Bakker, Demerouti & Euwema, 2005; Demerouti, Bakker, Nachreiner & Schaufeli, 2001) indicates that specific risk and demands, which are embedded in each job, culminate in job stress. However, the level of job stress is balanced out if the job resources, which Bakker et al. (2005) referred to as the physical, social and organizational aspects of the job that enhance personal growth and development, are adequate. Gächter et al. (2010) and Hu et al. (2016) submitted that social and job resources were associated with reduced occupational burnout among police personnel. However, in the case of Nigerian police, the socio-cultural roles of gender and marital status may interact with job stress to increase occupational burnout among police personnel, especially if there are no adequate social and family-supportive organizational resources that could mitigate the negative effects of work-family interference (Burke & Richardson, 2000; Ogungbamila, 2014b). This is because policewomen in Nigeria are usually expected to perform the socio-cultural roles of wife and mother in addition to their professional roles as police officers, irrespective of whether or not they enjoy adequate social support from their spouses (Ehiemua, 2014).

Therefore, contrary to the submissions of Odedokun (2015), if the marriages of policewomen in Nigeria are not situated within adequate social support from their spouses and family-supportive organizational resources, the buffering roles of marriage on the relationship between job stress and occupational burnout may not be guaranteed, especially in situations where married policewomen still perform the social and traditional roles of wives and mothers in addition to the professional police job. In this regard, marriage may be a source of social stress (Mudiare, 2013) instead of being a source of social support. Marital status may, therefore, compound the effects of job stress on police burnout (Elliot et al., 2015). Against this background, it is hypothesized as follows:

1. Gender will increase the relationship between job stress and occupational burnout of police personnel; with females reporting higher level of occupational burnout than males.
2. Marital status will increase the relationship between job stress and occupational burnout of police personnel; with those who are married reporting higher level of occupational burnout than those who are single.

Study setting

The structure of the Nigeria Police Force can be evaluated from 3 angles (command, administration, and organization), which are patterned to meet the constitutional expectations of the police (Obi-Anike, Ekwe & Ogbo, 2014). The command structure of the Nigeria Police Force reflects the hierarchical and regimental nature of its operations and directives, which implies that orders, directives and instructions are handed down from the Inspector-General of Police (who heads the Nigeria Police Force) down to the constable (the lowest rank). For administrative convenience, the Nigeria Police Force is divided into 7 administrative departments (structures): administration (Department A), operations (Department B), logistics and supply (Department C), investigation and intelligence (Department D), training and command (Department E), Research (Department F), and Information and Telecommunication Technology (Department G).

In order to enhance the supervisory formations of the police force, the Nigeria Police Force is further divided into 6 zones (organizational structure) in line with the geo-political structure of the country. The organizational structure starts with the Force Headquarters, which controls the Zonal Headquarters. State Commands Headquarters are under the supervisory commands of Zonal Headquarters. Under each State Command are the Divisional Police Headquarters, which supervise the Police Stations, Police Posts, and Village Police Posts (Obi-Anike et al., 2014).

The participants in this study were selected from the Ondo State Police Command. The Ondo State Command was selected because its structure was a reflection of the structure of the police organization in other states in Nigeria. The Command had 3 Commands (Owo, Ondo, and Akure) with 43 Police Divisions. Since police personnel in Nigeria are centrally controlled, the Ondo State Police Command would be home to individuals from the various ethnic and religious backgrounds in Nigeria (Amos, 2016). Therefore, the police in Ondo State may not be totally immune to the socio-cultural beliefs and practices that direct and guide gender and marital roles and expectations at work and home.

Method

Design and participants

This was a cross-sectional survey. Participants were 213 police personnel (male=120; female=93) sampled from 20 police divisions in Ondo State, Nigeria. Their ages ranged between 20 and 54 years (M_{age}=38.15; SD=10.00). In terms of job location, 125 (58.7%) were serving in 10 police stations in urban centres and 88 (41.3%) were serving in 10 police stations in semi-urban centres. Concerning marital status, 65 (30.5%) of the participants were single, 147 (69.5%) were married, and 1 (0.5%) of the participants did not indicate his/her marital status. Concerning academic qualification, 32 (15%) had up to Secondary School education, 64 (30.1%) had up to National Certificate in Education /National Diploma (which is higher than secondary school but lower than first degree), 88 (41.3%) had first degree or its equivalent, 19 (8.9%) had postgraduate degree, and 10 (4.7%) of them did not indicate their academic qualification. In the case of job status, 72 (33.8%) were at the junior cadre, 136 (63.9%) were at the senior cadre, and 5(2.3%) of them did not indicate their job status.

Measures

Job stress was measured using Occupational Stress Index (OSI) developed by Srivastav and Singh (1981). It was designed to measure the level of stress employees perceive from various constituents and conditions of their job (role overload, role ambiguity, role conflict, group and political pressure, responsibility for persons, powerlessness, under participation, poor peer relations, strenuous working condition, low status, unprofitability, and intrinsic impoverishment). It was a 46-item scale rated on a 4-point scale (1 = Strongly Disagree; 4 = Strongly Agree).

Sample items include: "I have to do a lot of work in this job" (role overload), "The available information relating to my job-role and its outcomes are vague and insufficient" (role ambiguity), "My different officers often give contradictory instructions regarding my works" (role conflict), "Sometimes it becomes complicated problem for me to make adjustment between political/group pressures and formal rules and instructions" (group and political pressure), "The responsibility for the efficiency and productivity of many employees is thrust upon me" (responsibility for persons), "Most of my suggestions are heeded and implemented here" (reverse-scored - under participation), "My decisions and instructions concerning distribution of assignments among employees are properly followed" (reverse-scored - powerlessness), "I have to work with persons whom I like" (reverse-scored - poor peer relations), "My assignments are of monotonous nature" (intrinsic impoverishment), "Higher authorities do care for myself respect" (reverse-scored - low status), "I do my work under tense circumstances" (strenuous working conditions), and "I get less salary in comparison to the quantum of my labor / work" (unprofitability).

Srivastav and Singh (1981) obtained .90 Cronbach's alpha for the overall scale. In the present study, OSI had a Cronbach's alpha of .84. In this study, job stress was measured as a composite psychological condition based on the overall score on OSI. High score on the measure of job stress indicated the participants were experiencing high job stress and vice versa.

Occupational burnout was measured using Maslach's Burnout Inventory (MBI) developed by Maslach and Jackson (1986) to assess the extent to which employees feel exhausted, callous, and underachieving as a result of daily work pressure. MBI was a 22-item inventory, which had 3 subscales rated on a 6-point scale (1=A few times a year; 6=Everyday).

Sample items include: "I feel used up at the end of the day's work" (emotional exhaustion), "I have become more callous towards people since I took up this job" (depersonalization), and "I have accomplished many worthwhile things in this job" (reverse-scored - reduced personal accomplishment). Cronbach's alphas ranging from .71 to .90 were obtained for emotional exhaustion, depersonalization, and reduced personal accomplishment subscales (Maslach & Jackson, 1986).

In a study involving police personnel in Nigeria, Ogungbamila (2013) obtained a Cronbach's alpha of .81 for the overall scale. The overall score on MBI was used in the present study because the study was not designed to assess the components of burnout; but it focused on occupational burnout as a syndrome. The Cronbach's alpha of MBI, based on the present sample, was .84. A high score on MBI indicated that the respondents were emotionally drained from, were less responsive toward others, and felt incompetent or underachieving and vice versa.

Procedure

Out of the 43 police divisions in Ondo State, Nigeria (Ondo Command = 17 divisions; Owo Command = 14 divisions; Akure Command = 12 divisions), 20 police divisions were selected (10 from Ondo Command, 6 from Owo Command, and 4 from Akure Command). In selecting the divisions, all the police divisions in urban and semi-urban centers were arranged, separately, in alphabetical order and a Table of Random Numbers was used to select 10 divisions from the urban centers and 10 divisions from the semi-urban centers. The police personnel in the selected police divisions were given adequate information about the purpose of the study.

They were also informed that participation in the study was voluntary and that there were no known physical and psychological harms attached to the study. They were assured that they were free to discontinue with the study if they felt highly uncomfortable at any point in the course of participating in the study. Active randomization process could not be used in selecting the participants because of the nature of their job and the security situation in the country. Therefore, questionnaires were distributed to those who were available and willing to participate in the study. In all, 250 questionnaires (urban=150; semi-urban=100) were distributed. Out of the 250 questionnaires distributed, 213 were duly completed and found usable (urban=123; semi-urban=90). This yielded a response rate of 87.6%. Data collection spanned 5 weeks.

Results

Hypotheses 1 and 2 were tested with a 4-step hierarchical regression. In step 1 of the analysis, the socio-demographic variables were entered. Job stress was entered in step 2 of the analysis. The interaction effects of job stress and gender were added to the model in step 3. In step 4 of the analysis, the interaction effects of job stress and marital status were added to the model. The results are presented in Table 1.

Model	β	t	R	R^2	ΔR^2	F	ΔF
Model 1			.11	.01	.01	3.37*	3.37*
Age	.06	.54					
Educational qualification	-.20	-6.53**					
Job status	-.09	-.39					
Job location	.19	5.26**					
Model 2			.28	.08	.07	5.89**	2.52*
Age	.05	.35					
Educational qualification	-.19	-5.30**					
Job status	-.06	-.16					
Job location	.18	4.06**					
Job stress	.37	9.85**					
Model 3			.41	.17	.09	13.76***	5.08**
Age	.03	.26					
Educational qualification	-.17	-3.31*					
Job status	-.03	-.24					
Job location	.17	3.99*					
Job stress	.39	10.09***					
Job stress x gender	.59	14.50***					
Model 4			.39	.16	.08	12.82***	6.93**
Age	.02	.25					
Educational qualification	-.16	-3.25*					
Job status	-.02	-.22					
Job location	.16	3.24*					
Job stress	.40	11.22***					
Job stress x marital status	.42	13.01***					

Note: ** $p < .01$, * $p < .05$, N=213. Gender was coded male 0; female 1. Marital status was coded single 0; married 1. Educational qualification was coded: Less than first degree 0; At least first degree 1. Job status was coded: junior cadre 0; senior cadre 1. Job location was coded: urban 1; semi-urban 0.

Table 1: Hierarchical multiple regression on the moderating effects of gender and marital status on the relationship between job stress and occupational burnout

Results in Table 1 reveal that job stress significantly predicted occupational burnout such that increase in job stress led to increase in the level of occupational burnout ($\beta =.37$, $p < .001$). Gender increased the effect of job stress on occupational burnout in such a way that job stress tended to result in higher level of occupational burnout in female than in male police personnel [$\Delta R^2 = .08$, $F (10, 211) = 13.76$, $p < .001$]. Job stress alone accounted for 13% changes in occupational burnout, whereas its interaction with gender led to 35% changes in the level of occupational burnout among police personnel. Therefore, hypothesis 1 was supported.

Marital status moderated the relationship between job stress and occupational burnout. Marital status increased the extent to which job stress led to occupational burnout, especially among police personnel who were married than those who were single [$\Delta R^2 = .09$, $F (11, 210) = 12.82$, $p < .001$]. When the interaction effects of job stress and marital status were added to the model connecting job stress to occupational burnout the *beta* value increased from .37 (job stress alone) to .42 (job stress x marital status). The moderation effects of marital status accounted for 18% of occupational burnout, whereas job stress alone contributed 13% changes in the level of occupational burnout. The results in Table 1, therefore, supported hypothesis 2.

Additional analysis
Gender and marital differences in job stress might have accounted for the moderating roles of gender and marital status on the relationship between job stress and occupational burnout among police personnel (Bazana & Dodd, 2013; Louw & Viviers, 2010; Meško *et al.,* 2010). In order to ascertain whether differences existed in the level of perceived job stress of male and female police personnel, a t-test for independent samples was conducted. Another t-test for independent samples was also conducted to compare the level of perceived job stress between police personnel who were married and those who were single. The results of the analyses are presented in Table 2.

Variables	**Groups**	**N**	**M**	**SD**	**t**	**p**
Gender	Male	120	131.44	15.06	5.10	<. 01
	Female	93	145.88	15.08		
Marital status	Married	147	143.03	14.86	5.06	<.01
	Single	65	130.86	15.44		

Table 2: Summary of T test on gender and marital differences in perceived job stress among police personnel

As indicated in Table 2, gender differences existed in the level of perceived job stress among police personnel with female police personnel perceiving higher level of job stress than male police personnel [*t*(211), 5.10, *p* <.01]. Marital status had a significant influence on the level of perceived job stress among police personnel [*t* (211), 5.06, *p* <.01]. Police personnel, who were married, perceived higher level of job stress compared with those who were single.

Discussion and conclusion

A lacuna that has not been adequately addressed in burnout literature is how gender and marital status moderate the relationship between job stress and occupational burnout, especially among police personnel in Nigeria, where cultural and social expectations may direct how employees balance work and family obligations. Results show that gender moderated the effects of job stress on occupational burnout. Job stress increased the level of occupational burnout among police personnel. The findings of Wiese et al. (2003), Wang et al. (2014), Iroegbu and Nwaogwugwu (2012), and Russell (2014) that job stress increased occupational burnout, were supported by the results of the present study. This may be because of the negative imbalance in the police-citizen ratio in Nigeria (Osuji, 2012), which might have culminated in additional workload for the police personnel (Roberts & Levenson, 2001; Ogungbamila, 2014a; Wang et al. (2014). The results of the present study also corroborated the findings of Elliot et al. (2015), Pines et al. (2011), and Kurtz (2012) that female police officers tended to report higher level of occupational burnout than male police officers. The results of the present study on the independent effects of job stress and gender on occupational burnout might have prepared a suitable ground for the moderation effects of gender on the relationship between job stress and occupational burnout. Job stress alone accounted for 13 percent changes in police burnout. The addition of the interaction effects of gender to the model increased it to 35 percent.

The fact that gender moderated the relationship between job stress and occupational burnout may be associated with gender differences in perceived job stress. Female police officers might have perceived higher job stress than male officers (He et al., 2005; Kurtz, 2012; Meško et al., 2010; Russell, 2014) because female officers tend to use emotion-focused strategies to

managing job stress more than male officers do (Gächter et al., 2011; Greenglass, 2002). This may be because females in Nigeria are usually less socialized to withstand stress compared with their male counterparts who are more socialized to withstand stress in order to enhance their level of competitiveness (Akinwale, 2009; Fawole, 2008; Mudiare, 2013). Previous studies (e.g. Gianakos, 2000; Liu et al., 2008; Yu-Chi & Keng-Yu, 2010) have shown that gender roles were more associated with perceived job stress than biological roles. This implies that female police personnel in Nigeria might have reported higher level of job stress than their male counterpart because they had been socialized to belief that policing is meant for men and that women are not designed to withstand stress (Akinjobi-Babatunde, 2015).

In line with the expectations of hypothesis 2, marital status moderated the relationship between job stress and occupational burnout in such a way that marital status increased the extent to which job stress resulted in occupational burnout. The results of the present study might be associated with the negative interface between work and family demands, which compounded the level of job stress and culminated in high level of occupational burnout (Merecz & Andysz, 2014). Marital status might have moderated the relationship between job stress and occupational burnout because of the negative interference between work and family demands among police personnel who were married (Bazana & Dodd, 2013; Louw & Viviers, 2010). Marital status might have increased the extent to which job stress led to occupational burnout in married police personnel because of inadequate social support from the home front (Burke & Richardson, 2000; Rivera-Torres et al., 2013). This implies that marriage, which could have been a social resource (Gächter et al., 2010; Hu et al., 2016; Odedokun, 2015) compounded the level of job stress in police personnel and led to an increased level of occupational burnout.

The results of the present study extended the job demands-resources model (Bakker et al., 2005; Demerouti et al., 2001). The results of the present study have suggested that married employees, especially females, who might not have access to adequate family-supportive resources (which might help to buffer the effects of job stress), reported high level of occupational burnout (Burke & Richardson, 2000; Ogungbamila, 2014a). The results of the present study, therefore, suggest that family-supportive job resources should be provided by police organizations in order to reduce the effects of job stress and occupational burnout on police personnel. This is particularly important going by call for and the increasing number of women in policing. The family-supportive job resources may reduce the negative interface of job and family obligations; thereby reducing occupational burnout and enhancing the functionality, especially of women police officers.

A unique gap in knowledge that the present study has been able to fill is underscored in the fact that previous studies have not adequately documented the moderating roles of gender and marital status on the connection between job stress and occupational burnout among police personnel in Nigeria. Police personnel in Nigeria may be prone to occupational burnout when the effects of job stress interact with gender and marital obligations because gender and marital obligations are dictated more by social and cultural expectations rather than biological characteristics (Liu et al., 2008; Yu-Chi & Keng-Yu, 2010). In order to reduce the negative interface between job stress and gender, police organizations, especially where socio-cultural norms dictate gender roles and direct social relations, should evolve gender-sensitive procedures in police recruitment, training, promotion, and operations.

The present study has implicated work-family interference in the moderating roles of gender and marital status on the relationship between job stress and occupational burnout. The findings of the present study have made a unique contribution to literature on burnout in married police

officers. Its findings have pointed to the fact that family-supportive job resources may be important aspects that should be considered when applying the job demands-resources model (Bakker et al. 2005) to explaining occupational burnout, especially among policewomen.

In spite of the contributions of the present study, there is the need to investigate how perceived dimensions of family-supportive job resources moderate the moderated effects of gender and marital status on the relationship between job stress and occupational burnout of police personnel. This may help direct the focus of intervention on occupational burnout, especially among female police personnel who are married. This study did not investigate how rank of police officers may moderate the relationship between job stress and occupational burnout. Therefore, future study should include rank as one of the moderating variables in the connection between job stress and police burnout.

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Mis-fitting Menstrual Hygiene Products: An Examination of Advertisements to Identify Gaps in the Diffusion of Innovation

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Abstract

This research examines advertisements for menstrual hygiene products to discover the roadblocks in the diffusion of innovation of menstrual hygiene products. The objective is to evaluate the advertisements to comprehend the cultural relevance of the diffusion, justify the rate of diffusion of innovation, identify the bottlenecks prohibiting the diffusion, and suggest ideas for a successful diffusion of innovation. A convenient sample of 75 television advertisements and print advertisements of sanitary hygiene products was selected for analysis. Using thematic analysis this research identifies and extracts themes that are the potential bottlenecks to successful diffusion of innovation. The main themes identified were the assumption regarding the knowledge of usage, knowledge of disposal, knowledge of sharing, existing clothing standards, affordability, role of woman, and comfort with insertion. The discovery of themes not only demonstrate ignorance and incompetent market research but also give us a sense of the glacial diffusion of menstrual hygiene products in the recipient country.

Keywords: advertisements, menstruation, market research, innovation, adoption

In-depth understanding of a culture and the cultural relevance of a product is not something that can be ignored, if one wants to sell products or services in a new culture. If the new product is culturally irrelevant then the marketing of such a product is difficult. The importance of cultural relevance is explicated here by taking the example of sanitary hygiene products. We will utilize advertisements of sanitary pads to examine their cultural relevance. Sanitary pads are one of the many new innovations/technologies that are transferred internationally. Globally, there is a constant transfer of new innovations and technology from the financially and technologically advanced nations to the ones less so. The explicit philanthropic transfer is a seemingly benevolent deed to empower and uplift the underprivileged nations. However, on closer inspection it becomes evident that such innovation transfer puts immense pressure on the recipient nation. Transfer of new innovations and technology, resulting from the monologic assessment of the market and pro-innovation bias, is more likely to create confusion and chaos in the existing cultural habitat. The reason for such confusion and chaos is explained by Pilotta & Widman (1986) where they assert that the export of new innovations and technology is equivalent to the export of meanings. Meanings are derived from ones history and culture. So when one culture exports its meanings to another culture with different meanings the likely result is confusion and chaos, which in turn impedes the adoption of the new technology/innovation.

Menstrual hygiene products (sanitary pads) were introduced in India in the 1990s. Prior to the introduction of sanitary pads and even after the introduction of sanitary pads Indian women have been reported as using pieces of cloth, cotton wool, ash, husk, sand, bark, and polythene (Mahon & Fernandez, 2010). It is over two decades since the introduction of an innovation to deal with the discharge of liquid, mostly blood during menstruation (sanitary pads) and despite all the promotion efforts and length of time the adoption of sanitary pads is no more than 10% among the total female population in India. Varying with research, an average range of 7-10% females out of a total of 591 million females in India have actually been reported as users of sanitary pads (Dasgupta & Sarkar, 2008; Fernandez, 2010; Mahon & Fernandez, 2010; Sinha, 2011). This is a disturbing statistic compared to the other prominent nations of the East. In Singapore and Japan 100% women use sanitary napkins. In Malaysia 88% women use sanitary napkins and in China 64% women use sanitary napkins. Such a stark difference in the numbers is indicative of a problem in the understanding of the target market. A thematic analysis of the TV advertisements and print advertisements was conducted to examine the major themes responsible for the glacial march of sanitary pad adoption in India.

To provide a context for the research, the author examines the Diffusion of Innovation (DOI) of menstrual hygiene products from the commercially and technologically advanced culture of United States to the less commercially and technologically advanced culture of India. When sanitary pads were introduced to the Indian market in the 1990s, the major multinational fast moving consumer goods manufacturers from that era figured out that there was a massive market potential in India. This is an entirely new market with almost zero penetration of the product. All that was needed was to generate awareness and knowledge about the existence of sanitary pads. Every woman wanted to feel clean, fresh and on top of things when menstruating. Thus, this product would be an instant hit. This was one of the best opportunities to make profits. Heavy investments were and are being done to promote this product widely in India. However, monologic market assessment and pro-innovation bias limit robust comprehension of culture. Therefore, major brands continue to struggle to make a substantial place for themselves in this new culture. This study is important because it brings forth the issue of cultural relevance of a product to its market.

The theory of Diffusion of Innovation (DOI) provides a solid theoretical framework for the study. Everett Rogers popularized DOI. DOI is widely accepted as a theoretical framework in numerous scholarly disciplines such as marketing, communication, sociology, psychology, health and development, and many more. DOI adopts a two-stage process wherein, the first stage involves mass communication tools and the second stage involves interpersonal communication (Rogers, 1995). The former creates awareness and knowledge required for the diffusion as a mass level and the later pushes for adoption at an individual level. DOI is relevant as a framework for this study because it allows the author to clearly comprehend the diffusion of sanitary pads as an innovation, study the first stage of mass communication based advertising to unearth the likely reasons for the failed diffusion of sanitary pads. Definitions of some of the major terms are, "Diffusion is a process by which an innovation is communicated through certain channels over a period of time among the members of the social system (Rogers, 1995). "Innovation is an idea, practice, or object that is perceived to be new by an individual or other unit of adoption" (Rogers, 1995). Knowledge, persuasion, decision, implementation, and confirmation are the five stages of adoption. Adoption is at an individual level and diffusion is a mass level. Adopters are the individuals that engage with the innovation and depending on how soon or later they engage with the innovation they are divided into the following: innovators, early adopters, early majority, late majority, and laggards (Rogers, 1995). Major criticisms of the DOI theory are its inherent exogenous bias, top-down approach, and pro-innovation bias. Despite its criticisms, DOI has been one of the most influential theoretical frameworks because of its applicability in various disciplines and contexts. Thus, DOI provides a thorough framework to understand the cultural and psycho-social aspects playing a vital role in the individual adoption and mass diffusion of sanitary pads.

Method

In this study, 75 television (TV) advertisements and print advertisements were selected using convenient sampling for the analysis. Advertisements were chosen because they are a reflection of the culture that menstrual hygiene product manufacturers come from and are trying to establish. Based on that information, the misfit between donor and recipient culture was identified. Manufacturers assumed greatly about Indian market and ignored essential intercultural dissimilarities, whereas; they should have relied on dialogical market assessment instead. Their assumptions were based on the understanding of their own culture. An in-depth dialogical market assessment prior to the transfer would have alerted these manufacturers against unknown and unexpected challenges in the adoption and diffusion of sanitary pads. Advertisements were retrieved for the analysis from the archival collection of the Knowledge Exchange and Information Center (KEIC) at Mudra Institute of Communications, Ahmedabad (MICA). Out of 75, 50 were TV advertisements and 15 were print advertisement. The advertisements were chosen arbitrarily from a time period of 1990 until now. The criteria for selection for TV advertisements are provided in Table 1.

Criteria	
Brands	Promoting menstrual hygiene products
Aired on	Doordarshan, Sony TV, Star TV, Zee TV
Languages	Hindi and English
Version	Uncut
Target consumer	Indian women (15-40 years)
Length	No longer than 2 minutes

Table 1: Criteria for selection of TV advertisement

The print advertisements were also selected from the archives of KEIC-MICA. All the print advertisements were in English language or Hindi written in English language. The print advertisements were selected from popular women's magazines such as *Femina*. The author watched all the advertisements to familiarize with the data. After repeated watching of the advertisements patterns started emerging. Advertisements were watched again for examining if these patters were indeed prominent and recurring themes. Major themes that emerged form the advertisements are discussed in detail in the results and discussion section.

Results and discussion

The major themes that emerged from the thematic analysis are each explained in detail in this section.

Superior replacement
The first theme that emerged was of the donor culture assuming that the new innovation being introduced in the recipient culture was the best choice for its people. This assumption is greatly problematic. Blind faith in ones product is dangerous to sustain healthy sales and profit ratio in a new and multi-cultural environment. It leads to a tension between the existing cultural product and the new innovation being introduced, and eventually a greater tension between the two cultures for superiority and survival.

A new cultural product should be presented as an option to the existing one and not as a superior replacement indicating the abolishment of the prevalent product or in this case the method to deal with menstruation. A piece of cloth, as mentioned earlier, is still the most commonly used method to take care of the menstrual flow followed by other alternates such as ash, sand, husk, tree bark, and more. We can clearly observe in the TV commercials that the most prevalent option is targeted and a distinct message is disseminated on mass communication mediums about sanitary pads being superior and pieces of clothes have to be replaced.

A Whisper TV commercial begins with the entering of a female in the age range 35-40 years with a folder in her hand. She is shown entering what appears to be a medical lab with many jars filled with fluids and a microscope in front of her. She is wearing a sari but on top of it she is wearing a lab coat and she is also wearing glasses. Wearing glasses in India is usually symbolizes indulgence in reading and scholarly activity. Clearly, the ad establishes that this female is a doctor. She is a doctor in Allopath or the Western medical science. And further in the commercial she says that old methods like using cloth are not advisable. Cloth does not have very good absorbency and this can lead to the proliferation of germs due to wetness. And this is not only spoken verbally but also reinforced visually. She folds a white cloth and places

it adjacent to a sanitary pad. A liquid, which is blue ink, is poured on both of them. She puts a paper on both and presses it. She lifts the papers and shows it to the camera. The paper pressed on the cloth has more blue ink as compared to the sanitary pad and thus proving her point that the absorbency rate of cloth is poor when compared to that of sanitary pad. Hence, the underlying message is that existing traditional methods such as cloth piece should be discarded. The advertisement also emphasizes that other lady doctors and gynecologists also recommend it. A seal with the text, "Most lady gynecologists use and recommend Whisper" is shown to enforce this external expert opinion. This tactic creates cultural tension on two ends. Firstly, it creates confusion about the existing product or method and the users start questioning the efficacy of the product. And secondly, allopathic doctors are not traditional doctors in India. India has ancient forms of medicinal practices such as Ayurveda and Homeopathy. These have been in existence for thousands of years and majority of Indians have grown up using Ayurvedic and homeopathic medicines. Numerous Indians look down upon Western medicine because it believes in alleviating the pain and not treating the root of the disease. So even the status of a Western doctor as an expert is compromised. Thus, it is clear that Indian culture is not robustly represented in such advertisements. And the belief that a foreign cultural product is the best choice is forced upon the target audience, which as a tactic is questionable.

Yet, in another Whisper TV commercial, a girl wearing white pants and a sleeveless shirt says, *"pehle paise bachane ke liye I used cloth at home, lekin geelapan staining ka tension, no concentration, mistakes hi mistakes"*. Here the girl asserts that to save money she used cloth at home but the lack of dryness, and the tension of clothes being stained constantly kept me distracted, and I would end up making mistakes all the time. Concurrently, in the video she is shown taking a wrong print out, which she has to throw it in the trash to visually reinforce her mistakes. Later in the same advertisement, after she finds a new product i.e. Whisper sanitary pad, she is shown to make no mistakes because she is less distracted. The advertisement ends with the dialogue, *"aur kapda iska karti hoon sahib istamaal…"*. These seven words translate into, "now I use cloth in the right way". To depict the right way, she is shown wiping her computer screen with a cloth. These are some clear indications that cloth is inferior and should be used only to dust and wipe computers and furniture. And for menstruation one should only use sanitary pads. The strategy of displaying absolute disregard for the prevalent cultural product is not unknown of but also at the same time not a sustainable one.

Other visual discrepancies in the advertisement are the white pants and shirt of the female and the presence of all white furniture in the house. In India majority of the population tries to stay away from white for two reasons. The first reason is practical. India has tremendous amounts of dust and dirt so wearing white clothes becomes a cumbersome maintenance issue. The second reason is cultural. Hindus (80% of the population) wear all white when mourning the dead and other similar unfortunate occasions. Again, it is distinct that the promotions depict a culture that is not an accurate representation of the Indian culture.

How to
The donors of the new innovation/technology (sanitary pads) assumed a pre-existing knowledge of how to use the product among the target market in India. While introducing a new product in the market, it is almost fatal to assume that the potential new consumers are already aware of how to use the new innovation. Additionally, menstruation, being a controversial and tabooed topic, poses limitations in terms of less access and acceptability to discuss and learn about the usage of sanitary pads. If not used appropriately, sanitary pads do not yield satisfactory results, which foster a negative word-of-mouth about the product among the users.

There are several delicate nuances about the correct usage of a sanitary pad. These also vary depending on the brand and the type. An example of an assumption and weak market research is to expect a new or a to be customer to have accurate information about the duration of time one should wear a sanitary pad. Sanitary pads have to be worn for a few hours depending on their absorbing ability and then changed. Any one sanitary pad should not be worn for an entire day. Depending on the menstrual flow one needs to either change the pads quickly or otherwise. Sanitary pads cannot be reused. There are several types of sanitary pads available in the market in terms of size, features, and usage guidelines. A female does need some level of knowledge to be able to figure out the right size, and features. It is not realistic to assume this level of knowledge from a new customer. It is also culturally insensitive to expect a female who is currently using sand and is also illiterate to get all the required information from a print advertisement or a TV advertisement.

While analyzing the advertisements, expectation regarding the preexisting knowledge of how to became evident. In a Whisper Ultra commercial, a female in the age group 16-20 years is shown in traditional Indian clothing. The advertisement's narrative here is that it is her elder sister's wedding and therefore she will be busy with preparations the entire day. She specifically uses the phrase, "morning to evening'. It is greatly reinforced that she has to help out with all the preparations and stand by her sister on her big day. In the next scene she says "ab second day hai to hai, Whisper hai to possible hai". It translates to, 'although it's the 2nd day, but its (hard work from morning to evening) all possible because she has Whisper'. This narrative does not emphasize on how many sanitary pads will she be required to change. On the contrary, the phrase "morning to evening" furthers an incorrect impression that there is no change of pad required. The advertiser assumes certain base level knowledge of the consumer. None of the ads explicitly specify the duration for which a pad can be worn because of the expectation that the consumer already knows such information.

Disposal
The norms of garbage disposal and treatment in different communities are different, especially when comparing USA with India. Disposable water bottles serve as a fine example to start discussing cultural differences. In USA, after drinking water from a disposable water bottle, individuals crush their water bottles and dispose them in a recycle bin or garbage. Whereas in India and especially rural India, water is scarce and conserving water is of great importance, every utensil that can store water is of importance. Thus, plastic bottles, instead of being dumped in recycle bins; find their way into people's homes.

Similarly, in the case of sanitary pads after their use they have to be disposed off properly. A sanitary pad is made up of polymers, other chemical fibers, and absorbents. Exposure to menstrual discharges from the body, dampness, and moisture do not, exactly, make them eco-friendly after their use. Thus, they need to be disposed off systematically. Unlike the USA, required infrastructure and facilities for disposal are neither common nor available in the rural and semi-urban parts of India. A major norm is to dump all the garbage in a common location near the village and is left to degrade biologically or a garbage van will come and pick it up once in a week. Most of the waste produced by the village folks is biodegradable. However, the new innovation of sanitary pads is not easily biodegradable. Improper disposal fosters the growth of harmful germs, and in turn increases health hazard if the dumping area is closer to the village. Sometimes, the villagers also dig and bury their waste. The traditional belief is that it will dissolve inside and be converted into natural manure, which is true for traditional items. However, such transformation does not happen with plastic products. This can lead to the decrease in the fertility level of the soil or increase of the toxicity levels.

Such expectations from the recipient culture are unsustainable and harmful for the product category. It is easy for the manufacturer based out of the United States to not realise the differences in disposal management. The post-adoption hazard evaluation is a key analysis evaluating the aftermath of the transfer. However, this is, mostly, ignored. The ignorance is also evident in the promotional content. Neither TV advertisements nor the print advertisements had any mention about the proper disposal of sanitary pads. There was no explicit or implicit, or a verbal or nonverbal reference to the issue of disposal of the sanitary pads in both the mediums. This leaves it to the user to figure out the right disposal method. A major issue among the females that had access to toilets was of clogged drains and sewer system. Females, due to the shame and stigma associated with menstruation, preferred to flush their used sanitary pads. And in certain areas the sewage water is processed chemically for reuse. The dissolving of sanitary pads in the water made the water treatment and processing difficult and less reliable.

Clothing standards
Clothing standards is yet another expectation that brings out the lack of cultural knowledge and poor market research on the part of marketers and advertisers. Sanitary pads are designed essentially for females that wear undergarments. It is very unlikely to come across a female in the USA that does not have access and the option to wear some form of undergarment. Based on that default knowledge, sanitary pads were designed in such a way that the undergarment supports it and keeps it in the right place.

However, in India there are women that do not wear undergarments. It is simply not a part of their social culture or norm. For centuries they have never realized the need and thus never worn an undergarment and they still do not. Females living in stark poverty in India cannot even afford a second meal. These women have only one piece of cloth that they use to wrap around their body. The concept of underwear just does not exist among these women. Introducing a product that essentially assumes the existence and usage of undergarments to these women is like giving solid food to an individual assuming that he or she has a healthy set of teeth when they do not. Even if you provide sanitary pads free of cost to these women what will they do with it. It is like giving a comb to a bald person. We may find humor in the simple follies of these marketers. But these follies put immense pressure on the recipients to adopt a newer way of life. And when the recipients are unable to adapt and adopt these new innovations, they are blamed as being traditional, backward looking, superstitious and thankless.

Secondly, to keep the sanitary pad in its proper place, the elasticity or the firmness of the undergarment is critical. Different washing and drying practices affect the elasticity and firmness of the undergarment. Loosened elasticity causes issues with the displacement of the sanitary pad and results in the failure of the product. Women in India do not normally change their wardrobes as frequently as women in USA. For many women buying new undergarment is an occasion that comes once in a year. So it is likely that majority of the women that have access to and wear undergarments are still not best suited for using sanitary pads.

In several TV advertisements this was the implicit theme. The advertisements began by putting down use of cloth by graphically showing two imaginary strips and placing a cloth and a sanitary pad on those imaginary strips. The shape of this strip was designed to look similar to that of an undergarment. This practice increased especially when the manufacturers started promoting sanitary pads with wings. Those wings were responsible for keeping a sanitary pad stationed as opposed to it being displaced like it did previously with the cloth pads or sanitary

pads. Even after several new versions and variations of sanitary pads were introduced what never changed was that graphic of the imaginary undergarment on which the sanitary pad was placed. This, again, is an example of the arrogance or the ignorance of the donor culture, which assumed that undergarments are a universal concept. It also reflects the poor research that was done prior to the launching of these products and TV advertisements.

Affordability

The latest A.C. Neilson survey reported that 70% women in India do not use sanitary napkins because they are unable to afford them (Sinha, 2011). Affordability of sanitary pads is a concern everywhere. Even in certain communities of developed nation like the USA, there are females that cannot afford sanitary products. With that said, there are also some cultural elements that play a role in prioritizing sanitary pads over other contesting items. In a collectivist society, ones family and societal needs are placed higher than the individuals needs. India is a collectivist society. Joint family system is highly prevalent in rural and semi-urban areas. When on a tight budget, a female tend to sacrifice her needs and wants more than a man, and therefore sanitary pads do not make the cut many a times. This is usually not the case in individualistic societies.

In certain instances, women, actually, cannot afford sanitary pads. According to the estimates of United Nations Development Programme 2010, 37% of the Indian population lived under the national absolute poverty line in 2010. It is impossible for these women to even think about purchasing sanitary pads. Even if we consider the population other than the 37%, the class of people that is just above the poverty line and is earning meagre income also cannot afford it. The advertisements analyzed mostly depict females making necessary adjustment in their monthly budgets to accommodate sanitary pads for them. These advertisements highlight the reduced price point, and then show females liking, comparing or sharing this price point. However, at the end, a female ends up buying sanitary pads either because of its reduced price point or because of its incomparable utility. Adjustments that are possible in advertisements are not always possible in real life. Thus, a reduced price point does not help these women in being able to make that decision to make adjustments in the monthly budget.

Prevalent cultural method adjacency

The prevalent cultural method guides in the advancement of the technology and there are stark differences in the prevalent methods of dealing with menstruation in the USA and India. Sanitary pads have been around since 1880s in the USA and the UK. Whereas, even today, in India the prevalent method is a piece of cloth (Mahon & Fernandez, 2010). Sanitary pads do have close adjacency to cloth pads. So for females using cloth pads switching to sanitary pads is not that difficult. But for women that use ash, husk, sand, tree bark, and nothing it is difficult to switch to sanitary pads. Although not a large percentage, but there is still is a significant percentage of women using these methods and a switch to an alien product and a way to manage menstruation is daunting and stressful.

Women in the USA, from a certain era, still shiver at the mere utterance of Toxic Shock Syndrome (TSS). Chemicals used mainly in the tampons and at times in sanitary pads, unknown to the producers, acted as toxins and resulted in the deaths of several women in the USA. However, tampons primarily caused TSS. 5296 cases had been registered between 1979 and 1999. As a result, sanitary pads were classified under a special category by federal regulatory agencies and the manufacturers were forced to go through rigorous testing of the products before introducing them in the market.

Sharing
Sharing of the products that are meant for personal hygiene is not at all a norm in the USA. Most individuals in the USA and some urban communities in India have the luxury of having their personal bathroom and toilet space. Majority of Indian population does not have that kind of luxury. In rural areas women sometimes do not even have access to toilets. Fernandez (2010) reported that 37% of respondents in his study did not have access to toilets. They use open spaces that are secluded to urinate and defecate. Railway tracks are infamous among Indians for the occurrences of such activities.

In collectivist cultures, sharing is an integral characteristic of any individual. More than one woman uses the same cloth pad for menstruation. After the first woman uses it the cloth is then washed, dried and kept aside. Other women in the family then use the same cloth as and when needed. Using the same sanitary pad can be harmful and even fatal. The use and throw culture is not the default culture in India. Instead, the repair or reuse culture is the prevalent culture in India. Traditional societies have thrived by reusing and ensuring sustenance. The marketers of the USA assumed the one time use or disposable culture in the recipient Indian market as well. This hindered the innovation diffusion and can lead to internal conflict within families over the ownership and usage of the product.

In one of the Stayfree commercials, a busy make up room is shown. A female is getting her hair done and the hairdresser uses a comb and then when she needs both her hands puts it in her mouth for a second. Another hairdresser needing the comb pulls the comb out of her mouth and attempts to use it on another artist's hair. This is when the frame stops and that particular artist prevents her hairdresser from using that comb, which was used earlier and also put in the mouth. She instead removes her personal comb, and hands it to the hairdresser to use it on her. There were two other Stayfree ads that dwell on similar topic. In a culture where sharing is caring, if one member in family denies another person to use her belongings then that family member will be looked down upon. In real life women in collectivistic cultures are not easily able to say no to requests of sharing her sanitary pads, which may not even be the right sanitary pads for another female. The insistence on personalized use of sanitary pads foster values of individualization that are not very highly regarded in Indian culture. Also, using a sanitary pad that you are not used to using or is not right for you lead to dissatisfaction and discomfort towards sanitary pad and the brand. In a Whisper commercial, a woman had to use her friends pad due to an emergency at her party. The narrative furthered that she felt very uncomfortable and restless using other pad and did not enjoy the party at all.

Role of woman
The role of a woman differs from society to society. In the USA the majority of women go to work and there is nothing unusual about it. Sanitary pads are designed to ensure that workingwomen do not face any condition wherein they have to be embarrassed. It becomes all the more important to be well protected against unnecessary awkwardness when the woman is outside and on the go. In the workplace it is unlikely for other women or men to take over somebody's responsibilities for three to five days because she is menstruating. One is expected to do ones own work and meet the deadlines.

Compared to in the USA, the role of woman in India is more of a homemaker. There are working women in urban India. But the majority of women stay at home and tend to household duties. When a female is in her own home, it is easier to get things under control when facing a menstruation related issue. Also, since a woman is not in a designated workplace she has more opportunities to take rest and, if needed, baths more frequently. In a joint family system,

other women of the family take over the responsibilities of the menstruating women. The role and social support system are very different in the two cultures and hence the cultural logic and relevance of a sanitary pad is different to different cultures.

In a print advertisement of the brand She, the text suggests of a husband preparing breakfast for his wife. He does the dishes and clears the table too. This is not the cultural norm in rural or semi-urban India. The last place Indian men want to enter is a kitchen. Traditional roles are closely followed. Men don't cook food and do the dishes. It is either the wife or the maids that do the cooking or dishes. The visual, in the same print advertisement, is of a female aged between 20 and 30 years and is jogging. Now this would be considered an anomaly in the Indian culture. If a woman is well enough to go for a job, she is surely well enough to cook and tend to other chores. Homely duties take precedence in the priorities of things to do. These values are ingrained in females since their early childhood. I, personally, do not advocate what is acceptable or right in this research. All I argue is whether the lifestyle depiction in the advertisements is in sync with the reality of the Indian society or not.

Comfort with insertion
Tampons, altogether, pose a different set of challenges for females in India. In traditional cultures, virginity of a girl is of great importance. Let me be clear, tampons do not have the magical powers to deprive a female of her virginity. However, due to the prevalent misconceptions regarding the insertion of any foreign objects into a vagina in the society it put tampons in an awkward category. There are accompanying misconceptions regarding the looseness of the character of a woman. Tampons are also associated with the aspect of deriving sexual pleasure. Such cultural bottlenecks are absent in the donor culture (USA). Thus, it is plausible that marketers will not consider such issues while strategizing their introduction into a recipient culture. Such lack of insider knowledge makes it challenging to tackle the stigma, overcome it, and then succeed in accomplishing the sales goal.

Conclusion

All the themes – superior replacement, how to, disposal, clothing standards, affordability, prevalent cultural method adjacency, sharing, role of woman, and comfort with insertion – that emerged from analysis are the likely factors for the glacial adoption and diffusion of sanitary pads and tampons in India. It also indicates that the formative assessment or market research conducted prior to introducing the innovation was incompetent. When the market research is inferior, the advertisers do not have accurate information to base their decisions and therefore, they end up making decisions based on their hunch without evaluating or examining their assumptions. Assumptions, in this study, refer to the preconceived notions or biases that the manufacturers and marketers of the new innovation have about the recipient culture. In most cases scholars have criticized assumptions because of their inherent characteristic of ignoring cultural nuances and sole focus on profit seeking. Gonzalez and Bradley (1990) support the argument by forwarding the underlying objective of the technology transfer is to enhance and maintain the economic welfares of the structures that are funding the research. Yet another argument focusing on the acceptance of the innovative technology brings out the arrogance that accompanies anything coming from the scientific west. Since "technology is rooted in scientific detachment, the values implicit in it are assumed to have universal validity" (Pilotta & Widman). Gonzalez and Bradley (1990) criticize the manufacturer for assuming that the unconditional and unchallenged acceptance of the innovation/technology is essential and good for the recipient irrespective of its consequences on the prevailing indigenous culture. Stewart & Nihei (1987) argue that despite the façade of benevolence the meaning and motive of

innovation/technology transfer is direct foreign investment and replication of the technological model in other locations while increasing and providing opportunities for the experts. Vested interests like mentioned above hinder the sustainable and quick export of innovations in new markets. Most of the times these transfers are like major hostile takeovers however, in some cases when the transfer is based on too many faulty assumptions it can prove to be a costly mistake. Also, the process of transfer of new products is believed to be symmetric and linear and not a dialogic or two-way transfer. This reflects in the understanding of the recipient culture that the manufacturing culture possess and the way they introduce the product. The presuppositions do not restrict to the technical knowhow but are also extended to the required social adjustments on the recipient culture's part.

After analyzing all the advertisements, and extracting the major themes depicting the faulty assumptions and their deceptive portrayal, it is not an exaggeration to assert that product transfers are cultural transfers and they misunderstand the recipient culture to be similar to theirs when in reality it is not. In this case the manufacturers of the sanitary pads are clearly ignoring the nuances of the Indian culture. Manufacturers are introducing, rather forcing, their products by either shaming the prevalent means or by depicting inaccurate cultural lifestyles. When the home market (USA) starts nearing saturation, it becomes important for the superstructures to retain and increase the economic profits of the corporations. To do so they explore and enter foreign markets with arrogance and insufficient knowledge about the host culture. They have deep pockets and that does give these superstructures an upper hand in terms of being able to promote their products using expensive mass media. However, their promotions are based on the type of promotions that were successful back in their country, which increases the chances of failure of these promotions in new and different cultural settings. Simple and easy to discover cultural nuances are ignored due to which not only the product adoption is delayed but also their financial resources are wasted. The assumption that women wear undergarment is a good example of inaccurate market research and resulting ignorance. Another example is the use of a Western medicinal expert that sometimes holds little to no credibility, to promote a Western product in an Eastern market. It does not require one to incur large expenditures to learn about the prevalent and creditable medicinal systems in a nation. But ignoring such details does reflect in the bottom-line of the company.

In this study, the aim was not to look down upon the cultural transfer or sanitary pads. The aim, instead, is to problematize and bring out the psycho-social and cultural loopholes in the process of adoption and diffusion. The themes that emerged provide a platform for understanding the impeding factors in the acceptance of sanitary pads in India. This study was important because it not only extracts the major themes but also corroborates them with the promotional elements (TV advertisements and print advertisements), which aids foreign manufacturers comprehend their mistakes made in marketing and promoting their product in India. This is also the first stage in the DOI consisting of mass communication to create awareness. Something to note here is that many a times, due to the bandwagon effect, hiring of the same agencies, subscribing of the same faulty market research, and lack of creativity some Indian brands that manufacture sanitary pads too promote their pads in a similar fashion depicting cultural anomalies. A thorough dialogical assessment of the psycho-social variables and cultural setting is pivotal before introducing any product into an alien cultural ecosystem. There are examples of big retail giants having to fail and withdraw their operations from countries. Walmart is a good example. Walmart was compelled to withdraw its operations from a couple of countries because of the cultural and psycho-social misfit in regards with the shopping practices, behaviors, and usage trends. This definitely hurts the profit-seeking motive of the superstructure and fosters indifference and estrangement towards other cultural transfers.

Indian culture is a progressive culture and is open to new innovations/technologies and products but it is important to present these cultural and innovative/technological goods in a manner that makes them a god fit with in the dimensions of the Indian culture. The approach of converting a culture into a market suitable for the sale of ones products is inappropriate and most unlikely to succeed. The simple reason being that the culture has survived without that very product for centuries. The innovation will succeed in selling in good numbers on when there is a real time need for it. However, designing a product suitable for the needs of a particular culture is always the appropriate approach.

As far as the adoption gap of the sanitary napkins is concerned, the depiction of accurate Indian culture in the advertisements is a starting point. That can happen only when an in-depth understanding of the cultural nuances is attained. This is the necessary and sufficient condition a manufacturer should adhere. Unsuccessful transfers also can also lead to political tensions between two nations. To maintain positive diplomatic relations, it is crucial that one culture does not force-feed another culture its excess produce. I will not say that is the case for menstrual hygiene products. Sanitary pads are useful and important for females. With proper understanding they do prove to be better than some other means of managing menstrual discharge. But claiming them to be by far superior to all the prevalent cultural means is not strategic and points out the pro-innovation bias. A thorough assessment of the sanitary needs of women in different geographies in India is critical along with the indepth knowledge of the psyche of that region. Glocalization is a key concept in the intercultural transfer of menstrual hygiene products from USA to India. Glocalization not only in the product design aspect but also in the promotions aspect of the product is the key.

Displaying US life with Indian faces does not do much for the Indian audience. The depiction of culture that Indian audience can relate to at a conscious and a subconscious level is crucial for persuading the audience in buying the product. The main problem is that the product ads reflect and provide for the needs of women in US. They do not address the needs of women in India. There is a stark contrast between the reality of women in US and India and their needs. The effort of introducing an innovation should be free of the recipient blame bias. Thus, intercultural innovations/technology transfer is beneficial to both the donor and the recipient only and only if both are equally engaged and involved in the process. There has to be power parity in participation and interaction. A power disparity may result in losses for both the parties involved.

As a result of reading this research the readers are expected to realize the importance of cultural relevance in a commercial setting. This research also highlights the limitations of monological market assessment and argues for a dialogical market assessment. Having a dialogue with the potential customers and stakeholders, and including them in the diffusion process as equals rather than recipients that know nothing better and are in need of help is a smarter and sustainable formative strategy. In other words, glocalizing (global products with local twists) ones offering is a useful strategy. This article also highlights the need to include sociological and anthropological studies during formative assessment. The field of psychology can also prove useful in comprehending psychological variables that can influence the diffusion of innovation. In general, this study is important for researchers and practitioners in fields such as communication, psychology, and sociology along with marketing and advertising.

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Towards a Metatheoretical Basis of an Activity Approach to Architectural Programming Research

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Abstract

Human activity is analyzed in numerous ways within the social sciences, as well as within applied areas such as ergonomics, management, marketing, and education. However, these conceptualizations of human activity are not intended for, nor do they contribute to the productive study of the socio-spatial interactions regarding planning and programming of facilities. The goal of this project is to develop methodological foundations for activity analysis and modeling within the area of architectural programming. Our objective is to contribute to the development of a perspective for analyzing activity systems and to facilitate the creation of activity models that may be used to examine socio-spatial interactions. Specifically, this proposal examines the structures of activity that emerge in the process of interactions between people and the built environment in respect to the conditions and resources necessary for efficient performance. The viewpoint proposed establishes the foundations of a "conditions and resources" perspective on activity.

Keywords: socio-spatial structures of activity, socio-spatial interactions, architectural programming

Activity models in the social sciences are often created for academic pursuits and occasionally for practical applications in fields such as management, marketing, social work, ergonomics, and education fields (Bedny & Karwowski, 2007; Berglind, 1988; Cummings & Worley, 2001; Kaptelinin & Nardi, 2006; Kotler & Veller, 2015; Lamport, Coffey, & Hersch, 2001; Robins, 2003; Staubmann, 2006; Stewart, 1998; Valach, Young, & Lynam, 2002). These conceptualizations of human activity focus on the goal-directed and socio-normative nature of human action. Many of them are excellent in their own way and within their specific fields of application. However, they are not intended for, nor are they usually applicable to the study of activities that take place in the built environment or the ensuing socio-spatial interactions that occur in those locations. While the examination of activity abstracted from its own spatial context may not be a problem in some social disciplines, it is in the area of socio-spatial analysis, especially in the fields of architectural programming and design, deforms the resulting conceptualizations of activity, thereby rendering them useless. Consequently, there is a need for activity models that can guide programming researchers in the study of socio-spatial interactions and assist with the development of the theoretical basis of architectural programming.

Before continuing with a discussion of activity models used for socio-spatial research and architectural programming, we first introduce the concept of architectural programming in order to contextualize our research. Architectural programming is concerned with the development of an information base that supports design decision-making. The core of architectural programming is the study of users, their activities and operation in the built environment and their norms, needs, and preferences. (Cherry, 1999; Kumlin, 1995; Preiser, 1993; Sanoff, 1977, 1989, 1992). An analysis of the literature on programming reveals that human activity forms the foundation for developing user requirements (Bechtel, 1977; Harrigan, 1987; Moleski, 1974; Sanoff, 1977, 1989, 1992). The activity theme exists, directly or indirectly, in almost all publications on programming. For that reason, the concept of human activity has an important role in architectural programming research.

Our research program is oriented towards developing activity models that are productive in programming research. This area is rarely examined and there is no adequate information for building theoretical models and field research protocols. Rather, in such cases philosophers of science suggest we begin with the development of metatheoretical foundations and then proceed towards building theories and developing models that will inform data collection and analysis in architectural programming. Consequently, our objective is to construct a perspective on human activity that will facilitate the analysis of activity components and structures that are relevant to both the built environment and to programming and design research.

Our methodology employs a cultural historical activity approach to social reality (The International Society of Cultural-Historical Activity Research; Leont'ev, 1978; Roth & Lee, 2007). We also engage in a pragmatic interpretation of activity theory based on ideas from the Moscow Methodological Circle (http://www.fondgp.org/mmc). This methodological foundation provides a number of assumptions about the nature of activity – assumptions that guide our analysis and selection of existing theoretical developments regarding human activity. It also informs the construction of our proposal for a methodology on activity research for architectural programming.

Human activity is the medium in which both objects (buildings, in our case) and subjects (i.e., actors, agents, participants) exist (Bertelsen & Bodker, 2003; Blumenthal, 1995; Bodker, 1991, Daniels, 2001; Davidov, 1990a, 1990b, 1999; Engestrom, 1999; Kaptelinin, Kuutti, & Bannon,

1995; Kuutti, 1996, 1999). They interact and develop relationships within that medium (Petrovski, 1989). In the process of human activity the spatial structures are socially appropriated and become part of people's existential environment. Activity is a mode of existence between people and the medium in which interactions and relationships among them emerge. Activity can be viewed as the binding force of socio-spatial entities. The perception of activity as both a medium and a mechanism for interaction and also as a generator of relationships, defines a vantage point of analysis that encompasses in one conceptual entity components of different natures—most importantly, social and spatial components. This bestows the concept of activity with even greater significance as an object of study of socio-spatial research and programming.

Our thesis is that the study of activity for the purposes of architectural design should consider both social and spatial components. The socio-spatial structures of activities emerge in the process of interaction of people both with and within the built environment, and consideration of these structures is necessary for efficient performance. Such structures of activity encompass both necessary conditions and undesirable constraints in respect to facilitating and sustaining activity processes.

These general assumptions will serve as guidelines in the pragmatic search and construction of a new conceptualization of activity that will be productive in socio-spatial research and architectural programming in particular. With this in mind, we have surveyed and analyzed a wide array of views and ideas about human activity in order to develop a springboard for future research in this area. Following our methodological plan, we review and discuss selected perspectives and theoretical models that we believe will bring us closer to discovering those aspects of activity that encompass both social and spatial components.

Selected viewpoints and ideas about human activity

The conceptualizations presented below draw on the influence of the activity methodology school of thought that was established in the second half of the 20th Century in Eastern Europe. We selectively refer to those authors and publications that have contributed to the emergence of the ideas presented in this paper. However, we will reinterpret their work in a new way, especially regarding our socio-spatial analysis and the theoretical needs of architectural programming.

Our analysis of human activity begins with the conceptualization of activity as a mode and a form of existence of both social entities and human individuals (Batishchev, 1990; Davidov, 1990a, 1990b, 1999; Engestrom, 1999; Fararo, 2001; Lompscher, 2002; Pletnikov, 1990). Such a view helps grasp the universality, the multifaceted nature, and the variety of forms of activity. These human activity characteristics help define its peculiarity as an object of study and lead to the necessity of considering a wide variety of related aspects (Shchedrovitsky, 1975; Yudin, 1978). The number of aspects considered is restricted by our cognitive abilities and research goals. In practice, the problem area that envisages the nature and the structure of human activity is an open system whose intersections and exchanges with the scholarly and design practices lead to extending its boundaries and incorporating new concepts and schemes.

Within the framework of system thinking, human activity is viewed as a complex, multifaceted, hierarchically organized, matrix (lattice) structure (Gordeeva & Zinchenko, 1982; Yudin, 1978; Tobach, 1999). Following this line of thought, we can conceptualize activity as a multistructural, multicentric, and dynamic system. Activity is also a process composed of many

components, which may vary in form and content, and which may change, transform, complement, or substitute for one another. Each one of these can at the appropriate time serve as a focal point and an organizing core, until the next stage, when another component might take the leading position (Davidov, 1990b, 1999; Engestrom, 1999; Gordeeva & Zinchenko, 1982). The number and type of active components and the emergence of a leading component are contingent on the goals, resources, and policies of the activity subjects and their organization, as well as the specifics of the environment (Shchedrovitsky, 1975). The dynamics of activity is manifested most openly in the change of the leading and active components, the shift in the significance of the components, and the emerging connections between them, which produce a shift in the importance of the different structures of the activity system.

Social reality can be interpreted as an activity system. From such a point of view it can be described as a functional organization of activities and processes. The participants can be presented in terms of the activities in which they partake. The entire problem area of the social sciences can be construed in terms of activity (Fichtner, 1999a, 1999b; Sagatovsky, 1990). Alternatively, yet in a complimentary way, human activity may be viewed as a holistic entity whose boundaries are established by the actors or participants. The participants constitute the main organizing force in this process. Their existential horizons introduce wholeness and continuity in the activity (Altman, 1977; Davidov, 1990a). Human life can be presented as a stream of behavior and activity processes (Barker, 1963, 1964, 1968), and everyday life can be seen as an activity chain (Hewitt & Shulman, 2011; Perin, 1970). Even when some components become autonomous in space and time, the wholeness is preserved, at least from a social point of view.

Activity may also be viewed as a series of purposeful acts that are influenced by several factors. These are the characteristics of the participants, their goals and objectives, the conditions of the situation (including constraints and restrictions), cultural patterns, and so forth. Analyzed as a process, activity can be presented as a trajectory that evolves irregularly because of impeding situational circumstances (Strauss, 1993). This model is based on the notions of responding to environmental stimuli, minimizing the effort, and sustaining a premeditated course of action. These ideas prepare the grounds for another set of propositions, including the interrelation between the participants and the spatial environment, the role of the spatial factors in the organization of activity, and the type of interdependencies (e.g. causal, associational, etc.) (Michelson, 2002; Rapoport, 1977).

In reality, the flow of activity in space and time is associated with specific practical effects which are usually not taken into consideration in theoretical thinking. The negative influence of these effects can be diminished by segmenting and separating activities in both space and time. This implies the segmentation of activity streams and the isolation of relatively autonomous components. The dependence of activity on spatial and temporal circumstances is the reason for studying these aspects of social situations. Space works as an environmental factor that sets the limits to the implementation of a premeditated trajectory of the activity process (Strauss, 1993). Time, on the other hand, is the specific realm in which the organization, coordination, and implementation of the process takes place (Whipp, Adam, & Sabelis, 2002). Time is also a resource for the development of the planned trajectory (Crang, 2001; Gren, 2001; Stein, 2001; Stone, 2004; Strauss, 1993).

Another important point of view is that the satisfaction of human needs takes place during the activity process (Reinvald, 1987). Production, supply, and consumption of conditions, necessary for the existence of the social subjects, take place in activity processes

(Shchedrovitsky, 1975). The relationships between needs and activities are particularly important for architectural research, because they represent phenomena that relate and connect people with their environments and establish the grounds for alternative (or complementary) approaches to architectural programming. As we have proposed above, activity can be viewed as a medium of interaction and interrelation between participants and spatial structures. The congruence between participants and spatial environments can be conceptualized as a norm or standard that describes the balance in these relationships. Any deviation from that norm requires resources for its rectification. From this vantage point, the norm that embodies and codifies a state of congruence can be conceptualized as a need-phenomenon (Shchedrovitsky, 1975).

These notions imply that activity is a mode of existence for the participants in various social situations and because of that, should be taken into consideration when designing the spatial environment. Our interest in activity processes can be explained by using the viewpoint that activity is a bonding, "gluing," organizing factor that interrelates and connects components of social and spatial origin into a coherent system. This perspective on activity creates a platform for organizing complementary notions of activity into a composite model. It also provides guidance in the search for aspects of activity that need to be supported by spatial structures.

Structures and components of activity relevant to socio-spatial research

One of the most common analytical strategies relevant to socio-spatial research is the dissection of activity according to the anthropological status of its components. Regarding the activity of a human individual, these components can be construed as physiological, psychophysiological, and psychological. Many authors also add motor processes (Brannick, Levine, & Morgeson, 2007; Lamport, Coffey, & Hersch, 1989; Wilson, Winston, Gibson, & Alliger, 2012). The physiological processes are relatively similar for all user groups, with the exception of specific groups formed on the basis of health or age status. In those cases, parameters can be measured with an accuracy that is adequate to architectural design. Because of the relatively tangible and measurable nature of physiological processes, we will redirect our attention to psychological processes, as they generate relationships that are more complex and lead to more complicated analytical tasks.

We assume that psychological processes can alternate their functional status and be treated as simple constituent activities depending on their role in the overall activity system. From the three main types of processes—cognitive, emotive (affective), and conative—the first group forms the basic medium of environmental interactions. Regarding socio-spatial analysis, we consider cognitive processes in terms of perception, cognition, and evaluation (Rapoport, 1977). In addition, we would include spatial memory and thinking. For example, after entering a particular environment (or setting), the activity subject/participant evaluates the situation, develops attitudes and displays reactions towards the environmental conditions that exist. Such attitudes may be either rational or emotional. The emotional processes are related to conative processes and can be viewed as an integral, although not conscious, evaluation of the situation. Meanwhile, the affective processes are influenced by the course of all other psychological processes, by environmental characteristics, and by their relations to individual goals and expectations. All these groups of psychological processes work simultaneously and the conceptualization of one of them as cognitive or affective is often arbitrary, relative, and relational, depending on the prevailing components.

According to Rubinstein (1989), the specific forms of psychological processes depend on the

material conditions of the situation. This assumption is important for the development of a vantage point for environmental analysis. It directs the study of activity and psychological processes again toward the identification of the necessary conditions. Another important notion comes from the fact that psychological processes take place within the context (framework) of activity, and it is within that context that they acquire the specificity of their occurrence.

The analytical segmentation of activity into the psychological processes mentioned above is instrumental for understanding the circumstances of congruence between the physical environment and the components of activity. This type of micro-scale analysis is pertinent and productive in ergonomics and thus is applicable to both furniture design and interior design. However, this approach would not produce substantial contributions to the architectural programming of entire buildings or urban environments.

Another approach to the analytical segmentation of activity is to break it down in accordance with the scale of its components and to create a hierarchical structure of somewhat autonomous and holistic components. Every level of that hierarchical structure has its own specificity and can also be horizontally segmented according to functional criteria. Usually, the components constituting one level are combined to form an entity at a higher level, and this procedure can be repeated several times. Authors conceive of different numbers of levels depending on the purpose of analysis.

One of the most popular models of that type in both psychological and human factors is "activity-action-operation-act" (Brannick, Levine, & Morgeson, 2007; Davidov 1990b; Gordeeva & Zinchenko, 1982; Engestrom 1999; Leont'ev, 1978; Wilson, Winston, Gibson, & Alliger, 2012). This model is relevant to small-scale activity entities and is productive in the design of smaller artifacts like instruments and gauges (Coovert & Thompson, 2014; Brannick, Levine, & Morgeson, 2007; Schutz & Schutz, 2009; Sutton, 2015; Wilson, Winston, Gibson, & Alliger, 2012). Other alternative conceptualizations are the concepts stream of behavior/activity (Barker, 1963, 1964, 1968; Hewitt & Shulman, 2011; Perin, 1970; Reinvald, 1987), activity/behavior chain (Zavalova, Lomov, & Ponamarenko, 1986; Leont'ev, 1978; Perin, 1970), and behavior/activity episode (Reinvald, 1987; Barker, 1963, 1964, 1968). These models are comprised of larger components, comparable to the daily occurrence of activities and human behavior in buildings and urban environments.

Another analytical model is based on the concept of "substance" or "content" of activity. This perspective views activity as segmented into several constituent actions or semiautonomous entities. They differ from each other in multiple ways, including: the number of participants, the type and mode of physiological and psychological processes, the type and organization of operation performed, goal structure, and function and importance (Shchedrovitsky, 1975). When all of these components and aspects are conceptualized from a cultural historical perspective, they constitute the "content" specificity of activity. In contrast to physiological and mainstream psychological viewpoints, cultural historical psychology is more often interested in analytical units that are molar (self-sufficient and holistic) rather than molecular (constituent units) (Kuutti, 1999). These units are entities that display wholeness and a somewhat autonomous existence within the boundaries of the activity chain. In order to carry out transactions with other activities and activity systems, "input" and "output" contact nodes or outlets are established. The major criterion that sets apart these constitutive activities and delineates their boundaries within the activity chain is their functional role, not to mention the importance of their results (Shchedrovitsky, 1975).

Such a conceptualization of activity is different from most of the models in psychology, which are usually intended for the study of operations, tasks, individual processes, and reactions, all of which present somewhat fragmentary pictures. The cultural historical alternatives tend to embrace larger units of study and to represent them in a larger context (Davidov, 1990a, 1999; Hewitt & Shulman, 2011; Kuutti, 1999; Pletnikov, 1990; Shchedrovitsky, 1975). The basic assumption in such a perspective is that it is not the separate individual processes, acts, and operations that define environmental interactions, but rather the syncretic result of the synchronized and coordinated flow of the constitutive components (Shchedrovitsky, 1975; Tobach, 1999). The cultural historical approach is more inclined to search for a holistic representation of the object and to create a complex picture that is different from the sum total of all constituent processes. In this respect, the "content" approach to activity is not focused on separate processes and structures, but on self-sufficient entities. It is implicitly construed by everyday consciousness as a holistic image that connects several factors within one entity, among them individual processes, operational patterns, necessary conditions, and activity outcomes/result (Davidov, 1990a, 1990b; Shchedrovitsky, 1975; Tobach, 1999).

Both the basic principles of person-environment interactions and the objectives of programming research delineate another aspect of analysis and, in agreement with it, another type of segmentation for activity systems—one that is according to the conditions they need (Shchedrovitsky, 1975; Tobach, 1999). These conditions constitute the fundamental points in environmental interactions. The interrelation of activities and spatial structures brings about the issue of environmental conditions, and in particular, the consideration for necessary conditions. The artificial physical environment is created with the purpose of producing and supplying necessary conditions for activities and processes (Shchedrovitsky, 1975). In accordance with that purpose, architectural programming engages in identifying needs and related phenomena in order to inform designers of what design objectives they have to develop and what criteria and considerations they should use for generating and evaluating design solutions. In this respect, the necessary conditions for optimal person-environment interactions delineate an aspect that becomes the goal of activity studies within the design arena. Correspondingly, this perspective provides the basic criterion for assessing activity models for their relevancy to and productivity in architectural programming.

To a certain degree, the activity aspects and models discussed above reflect to a spatial dimension of social reality and the influence that material configurations exert on actors and their activities. Although created for the social sciences and professions, these selected models are to a certain extent relevant to the analysis of environmental conditions. The overview and critical assessment of these models are preliminary steps in the process of building a composite model that will guide the analysis of the structures and components of activity systems, streams, and chains in respect to necessary conditions. Such models are prerequisites for the identification and explication of the needs that are to be satisfied by built environment. Further, the models selected in this study are not among the most common conceptualizations of activity in traditional social science disciplines, where research priorities are typically placed on goals, motivations, and meanings. To the extent possible at the present time, the ideas just discussed will be used to develop conceptual prerequisites for reconstructing the socio-spatial structures of activity and for putting them together in comprehensive models

Relationships among activities in terms of spatial organization

From a socio-spatial perspective, the relationships among activities evolve along several lines: operations, space, time, conditions, and restrictions. Operations can be analytically segmented

into several types of exchanges: exchange of materials and objects, exchange of participants, exchange of energy, and exchange of information. When we apply a flow analysis approach (Blanchard, 2004; Keuning, 2007), all of these exchanges produce flows of people, materials, energy, and information (Becker, Kugeler, & Rosemann, 2003; Keuning, 2007; Galbraith, 2014). In complex social organizations, the flows acquire particular importance, and the specific way in which they are organized exerts a profound effect on the overall organizational structure (Becker, Kugeler, & Rosemann, 2003; Keuning, 2007; Galbraith, 2014).

Because actors are more than inanimate objects, that flow of people is strongly affected and even directed by factors that are related to the use of space and time, as well as the principles of minimal effort and maximum comfort. This flow is also influenced by the subsequent impact of all factors affecting activity strategy and trajectory, as well as by the attitudes of the participants towards any particular course of action. The information flows are of several types, and some of them emerge from formal and informal communication (Blanchard, 2004; Keuning, 2007). Communication is an important dimension of social interaction and is of crucial importance for cooperation and organization of activity. Regarding the programming and design of built environment, particular interest should be paid to face-to-face communication, which requires special considerations and conditions that can be provided by appropriate space planning.

The problems of movement and communication are so important that they overshadow all other considerations and strongly influence the organization of space in most socio-spatial systems (Hillier, 1996; Peponis & Wineman, 2002). More importantly, movement and face-to-face communication are strongly interrelated (Hillier, 1996; Peponis & Wineman, 2002). Specifically, face-to-face communication requires close proximity. Proximity is created by movement. The problems of movement and communication in architectural programming projects deserve special attention and analysis in conjunction with a number of psychological and sociocultural factors.

Different modes of communication constitute some of the most important logistical structures of activity. These structures provide the integration and coordination of a multitude of heterogeneous components (Keuning, 2007). Their multifunctional character and, especially, their ability to satisfy basic personality needs generate a tendency for autonomy. Very often, communication transcends the status of a logistical structure and emerges as a separate activity system, complementary or competing, infused with its own problems, goals, and requirements.

The "demand/supply" and "input/output" aspects of human activity provide the basis for conceptualizing yet another structure (Blanchard, 2004). This structure is concerned more with performance and function than with operation. The functional view of activities outlines a major activity structure and delineates its social role and meaning (Gordeeva & Zinchenko, 1982; Shchedrovitsky, 1975). Functional analysis describes the most important relationships between and among activities in terms of their spatial organization. Function is a major principle for conceptual reconstruction of the activity system that is to be accommodated by the building. If "function" is envisaged as a relationship or a connection, then the analysis of operations and communications is the starting point for studying it.

From a functional perspective, activities can be categorized according to the outcomes they provide and their role in the broader context (Gordeeva & Zinchenko, 1982). The list of functions is virtually endless, and the number of functions depends upon the specificity of the situation and the objectives of each analysis. Some functional designations can be

conceptualized on the grounds of importance of activities. For example, consider basic (i.e., according to the importance of the functions they provide) and secondary (or complementary) activities. Another group of activities is "service activities," which can be defined as activities that support basic and secondary activities.

The flows of people, materials, energy, and information are important considerations in spatial analysis and design. In order to optimize the connections and exchanges, and to minimize travel and travel time, as well as the resources used to support these flows, designers group together activities with large volumes of transactions and place them in close proximity. This is summarized in the design principle of adjacency. According to this principle, those activities with the largest volume of transactions among them are grouped together and located adjacent to each other, or at least in close proximity. The study of flows of people, materials, energy, and information is essential for design.

Activities take place in time and they have to be organized along that dimension (Crang, 2001; Stone, 2004). Temporal synchronization is even more important than spatial coordination, because the flow of time is unidirectional, and disrupted connections cannot be restored or substituted, as is possible with disruptions in space. The temporal aspect is of primary importance in organizing cooperative action, because in such cases there is a need for synchronizing the flows of people, materials, energy, and information. If these flows are scattered in space, the problems can be overcome by technical means and/or loss of time, but if temporal coordination is lacking, then connections are disrupted and exchange becomes impossible, thus breaking the chain into a sum of meaningless efforts. In this respect, the synchronization of the beginning, the end, the duration, and the order of activities is of great importance. By organizing the sequence of components, the whole process becomes manageable. Exercising control over the beginning and end points is one means of synchronization. Duration is another parameter that is often influenced by the actual possibility of the social system to carry out all its activities within the limits of natural cycles. In brief, the temporal organization of activity is a priority at all levels of management of social reality.

The space and time relationship is a two-way occurrence. Moving through space takes time; using one and the same room/place for different activities requires a time schedule, and the spatial isolation between activities may be substituted by temporal separation (Crang, 2001, Gren, 2001, Stein, 2001). For example, different and often incompatible activities can be carried out in the same room if they occur at different time slots according to a time-schedule. Temporal organization is the simplest means of solving such problems. Furthermore, it is a good way to save resources, because room use may be intensified and thereby decrease the need for new rooms.

Towards a methodology for activity research in architectural programming

As we have already mentioned, the socio-spatial structures of activity systems are comprised of relations about necessary conditions and undesirable influences (e.g., impeding and blocking factors, restrictions, and limitations). The study of activity in respect to the necessary conditions requires a new viewpoint, different from those conventionally used in the social sciences. This viewpoint focuses on the process of socio-spatial interactions and the emerging relationships among activities in respect to necessary spatial conditions and resources. These relationships constitute the socio-spatial structures. They represent a way for social phenomena to exist in space. These socio-spatial structures also encompass the social functioning of buildings and become the foci of socio-spatial research. In this respect, they constitute a

platform for formulating research goals and criteria for identifying relevant research aspects and tasks. All other structures of activity are studied with respect to acquiring information for reconstructing the socio-spatial structures. One simple guideline for socio-spatial research and for researching the socio-spatial structures of activity is to look for necessary conditions. Although this is still a general and abstract principle, it can be operationalized later by focusing only on the conditions that are produced by space or which affect the organization of activity in space.

This conceptualization has the potential to become a major methodological proposition for activity studies in architectural programming research. It establishes the grounds for a specific "conditions" perspective to activity. In management and education, the emphasis is on objectives, operations, technology and organization. Research goals and tasks are formulated in accordance with these concerns. The purpose of built environment (i.e., to supply necessary conditions) defines the information needs of designers and the goal structures of architectural programming and activity research for architectural programming. The difference among the research agendas of the design and the social professions presupposes the demand for a new approach that emphasizes different aspects of activity and produces representations that are unconventional or neglected in the social professions.

Regarding socio-spatial aspects and relationships between and among activities, we need to consider a number of important elements of activity, such as goal structure, necessary conditions, resources, products, emissions, and effects on other activities. Activities interact and enter into relationships with respect to these elements. Such relationships can be conceptualized as cooperative and synergistic, or competitive and conflicting. The management of these relationships by spatial or temporal means produces new derivative relations among activity elements or between them and the spatial environment. Examples include such relationships as compatibility or incompatibility; succession or parallelism; complementarity and symbiosis; autonomy or dependency, and so forth. These dimensions of activity interactions influence the organization of space when activities are organized in real situations/settings. On the other side, the arrangement of activities in space often brings about changes in their structures and specificity. The influence of space on activities and the corresponding effects are natural phenomena in the two-way person-environment interactions. In reality, this is a cyclical, iterative process. The subsequent modified configurations interact again with each other and the spatial environment. A change takes place in the activity organization. Then this new organization leads to new relationships with the environment and to a restructuring of the socio-spatial configuration. This can be a continuous process of adaptation and fitting together until congruence is achieved. In reality, very often it is necessary to assume an end to the adjustment processes and to artificially delimit them in order to start analyzing the activity situation as they are and to collect information for the needs of architectural programming.

Concluding remarks

In sum, we offer several basic propositions. In a metaphorical sense, activity defines the medium or the "plane" on which are situated participants, their social organizations, their needs, and the spatial-material structures. This is the "plane" on which their interactions occur, and it is a type of a screen on which their components and relationships are projected and delineated, and occasionally studied. In that sense, activity binds the components of the socio-spatial system into a whole and takes the role of a "system-building" factor. The study of activity as a "plane" or medium of interaction is the very approach to identifying and unveiling

the socio-spatial structures and aspects. These qualities can make activity an object of analysis and a methodological principle for designing socio-spatial research.

This reflective paper presents our vision for future research on activity modeling for architectural programming and design. The ideas proposed in this paper represent progress toward developing new and innovative methodological directions for the future study of activity and for creating activity models and frameworks that will provide additional insights into socio-spatial research. We are aware of the limitations of our project and the challenges connected with applying our insights at the present time. However, we believe that the successful formulation of metatheoretical principles and guidelines is a major prerequisite for successful research and the development of models and frameworks. Following the philosophy of the activity methodology school of thought, we believe that metatheoretical developments should always precede theoretical pursuits. Next, theoretical endeavors should precede field research and the practical application of findings. The strength of activity methodology is its systematic approach to discovery and invention, the engineering of new knowledge and technologies, and control over the direction of the research process. Our future research will move forward with this vision as we challenge and encourage others to do the same as they attempt to develop studies that more closely connect applications and practice.

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A Thematic Look at Selected Cases of Marital Nullity in the Philippines

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Abstract

Psychological incapacity on the part of either or both spouses as the basis of marital nullity under Article 36 of The Family Code of the Philippines has long been traced to cases of personality disorders. From a theoretical framework that included the legal basis under the said article and the categorical model of the Diagnostic and Statistical Manual of Mental Disorders-IV-TR (DSM-IV-TR), the author purposefully selected several clinical cases of spouses' narratives in their social case history – these narratives were already part and parcel of court transcripts. Employing a qualitative research methodology using thematic analysis, they were then dissected into superordinate themes that represented spouses' developmental years, premarital relationship years, and period of marital cohabitation as husband and wife. Thereafter, other themes and possible subthemes were extracted and listed under each of these superordinate themes. These themes and subthemes were then equated to the spouses' overt manifestations of psychological incapacity. In turn, these manifestations were matched with any or all of the diagnostic features or traits of personality functioning in the DSM. The ultimate objective of deriving and labelling the identified themes with specific personality disorders, with due consideration to the subthemes that referred to spouses' juridical antecedent behaviors, was successfully achieved to supplement the use of powerful psychometric tests, including the use of projective techniques which were utilized in the local courts. This innovative scheme of thematically analyzing spouses' narratives on marital nullification figured very well in forensic mental health assessment, especially when the respondent spouse was not available to undergo the necessary psychological assessment for some reason.

Keywords: marital nullification, psychological incapacity, personality disorder

The biblical decree, "What therefore God hath joined together, let no man put asunder" in Mark 10:9, must have really sealed the sanctity and inviolability of the marital union between a man and a woman. Those who found the union incompatible, got divorced. The Roman Catholic Church, however, excommunicated those who remarried (Wilde, n.d).

As the Roman Catholic Church kept itself busy attempting to wrestle control over the profitable marriage enterprise from secular authorities (Davidson & Ekelund, 1997), it also gave serious thought to not using the term "divorce", following the indissoluble character of the marital union. Hence, the dissolution of the marital union did not actually take place in the church's marital annulment (Foster, 1999) since Philippine society, being predominantly Roman Catholic, did not allow divorce in its jurisdiction.

The idea of civil nullity of marriage, then, took off from the church's concept of marital annulment. In the meantime, the notion of psychological incapacity in Philippine civil society resonated quite strongly when this was introduced as the basis of petition for the declaration of nullity of marriage in the country. Its very idea created by the framers of the law, allowed great leeway since the same was intended to be without any concrete definition and example, because to be citing specifics would only limit its application following the principle of *ejusdem generis* (Pineda, 2011).

Marriage in Philippine society is considered both a "special contract" (The Family Code, Article 1, 07 July 1987) and an "inviolable social institution" (The 1987 Philippine Constitution of the Republic of the Philippines, Article XV, Section 2, 1987). The State, however, realized that not all unions are perfect and that there are those who experience problems from time to time. The parties who experience tumultuous marital relationships cannot simply coexist under the same roof. Picking up from the concept of ecclesiastical annulment, the law provides a solution that allows problematic marital unions to be voided from the beginning, when either or both the spouses become psychologically incapacitated (The Family Code, Article 36).

Psychological incapacity

Citing the doctrinal case of Santos v. Court of Appeals, Gesmundo (2014) and Carcereny and Soliman (2010) defined psychological incapacity as the type of incapacity that is not physical, but mental in nature, such that either or both spouses would be truly incognizant to assume and discharge their essential marital obligations. Carcereny and Soliman added that the disorder must be grave, incurable and with juridical antecedents. Gesmundo clarified that although the symptoms could readily be physical, said incapacity must still necessarily be psychological in nature.

Mamaňgun (n.d.) identified the essential marital obligations of either or both spouses to the marital union (citing the landmark case of Molina) to include the obligation to live together as husband and wife, to observe mutual love, respect and fidelity, and to provide support to each other. In addition, there was the obligation on the part of either or both not to do any act that brought danger to the family, or to avoid any act that dishonored a spouse's good name and reputation.

Canlas (2007) pointed out that psychological incapacity must be more than the difficulty, neglect or refusal to perform the essential marital obligations, such as the obligation or duty of the wife to have sex with her husband (citing Navarro, Jr. v. Cecilio-Navarro). Similarly, sexual infidelity alone, according to Canlas (2007), was not sufficient proof of psychological

incapacity, unless the numerous acts of infidelity were shown to be symptomatic of a disordered personality.

Nambi and Sarkar (2015) and Sharma, Reddy, and Kamath (2015) proposed that the nullification of the marital union should only be given to cases where the unsoundness of mind was severe enough to prohibit one from discharging his or her essential obligations to the marriage. The Code of Canon, in fact, already made it very clear that the basis of real incapacity should be grounded on the presence of a serious anomaly that substantially vitiated the individual's psyche, and that this incapacity must impact the person's ability to understand his or her essential obligations to the marital union (Gray, 2006).

Notwithstanding the important tenet that was laid down in the Santos case to the effect that the incapacity must be psychological and not physical, the Supreme Court in Republic v. Molina (February 13, 1997) continued to lay down more tenets, and what appeared to be stricter guidelines in nullity cases. These included the following important guidelines: (a) that the crux of the incapacity must either be clinically or medically identified; (b) that it must be alleged in the petition; (c) that it must be proven by the experts; and (d) that it must be clearly illuminated in the decision of the court *a quo*.

In Brenda B. Marcos v. Wilson G. Marcos (October 19, 2000), the Supreme Court appeared to have contradicted itself by stressing the argument that the personal medical or psychological examination of the respondent was not a *conditio sine qua non* for the validity of declaration of nullity of marriage. The Honorable Court stressed that nullification of the marital union could have been established anyway by the entirety of evidences presented at hand.

The Philippine Supreme Court's interpretation of psychological incapacity, meanwhile, appeared to be vacillating (Carpio, De La Cruz, Igente & Itulid Law Office, July 9, 2015), but firm as well on the doctrines that were already laid down (Inquirer.Net, n.d.). The High Court's wavering attitude probably came inherent with the very nature of disordered personalities, the basis of which had been the Diagnostic and Statistical Manual of Mental Disorders-IV-TR's (DSM-IV-TR's) categorical framework of personality functioning. Just the same, this framework was heavily criticized for its excessive comorbidity and excessive covariation (Wakefield, 2013). Back then, forensic clinical psychologists in the country relied heavily on the use of the DSM-IV-TR, instead of the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5), for the diagnosis of psychological incapacity on marital nullity insofar as selected cases were concerned. The DSM-5, which replaced DSM-IV-TR, utilized a hybrid conceptual framework of DSM-IV-TR's categorical perspective and DSM-5's trait perspective of personality functioning.

Disordered personality as crux of psychological incapacity

Petitions for declaration of nullity of marriage based on psychological incapacity were generally anchored on disordered personalities (Drogowski 2010-CITE PROPERLY). Malibiran (2007), citing cases of Dedel, Villalon, and Navarro, claimed that the cruxes of spouses' psychological incapacity in the aforesaid cases were traceable to their disordered personalities. For instance, the respondent wife in Dedel suffered from Anti-Social Personality Disorder; the petitioner husband in Villalon suffered from Narcissistic Personality Disorder; and in Navarro, both parties similarly suffered from personality disorders, although only one of the spouses was cited by the forensic clinical psychologist as psychologically incapacitated. In Edward Kenneth Ngo Te v. Rowena Ong Gutierrez Yu-Te (February 13, 2009), the

petitioner husband and respondent wife, who both suffered from personality disorders, were also cited as psychologically incapacitated by Dr. Roxel A. Apruebo, an expert and scholar in the field. Dr. Apruebo's evaluation was recognized and upheld with utmost credibility by the Supreme Court. Interestingly, this case laid down the doctrine that forensic clinical psychologist's expert opinion must be considered with utmost regard insofar as personality profiles of the parties were concerned.

The case of Leonilo Antonio v. Marie Ivonne F. Reyes, (March 10, 2006), although not necessarily an exception to the foregoing cases, still took note of the Paranoid Personality Disorder of the respondent-wife, as testified by expert witness. What was groundbreaking about this case, however, was the highlight on the pathological and habitual lying that was concocted by the respondent wife, as asseverated by the expert opinion and conclusion of Dr. Arnulfo V. Lopez, forensic clinical psychology expert for the petitioner husband. Accordingly, the Supreme Court gave credence to the expert testimony of Dr. Lopez on the respondent wife's "fantastic ability to invent and fabricate stories and personalities that enabled her to live in a world of make-believe", making her psychologically incapacitated to fulfill her essential marital obligations.

Forensic mental health assessment

In establishing whether or not either or both spouses in a projected petition for declaration of nullity of marriage was psychologically incapacitated, the psychological assessment should be conducted within the context of forensic mental health assessment. Heilbrun, Grisso, and Goldstein (2009) appropriately defined this concept as an assessment activity designed to help the court in resolving a forensic issue. The forensic issue referred to would then revolve around the legal question faced by the court in legal proceedings. Hence, the referral question in forensic mental health assessment would be the very legal question at hand. Applied to the present study, the referral question would then raise the issue of whether or not the petitioner and/or the respondent spouse was psychologically incapacitated to fulfill his or her basic obligations and duties to the union.

In the forensic mental health assessment of the petitioner and/or respondent spouse, forensic clinical psychologists in marital nullity cases would often be questioned on the means and methods of assessment. Nicholson and Norwood (2000) declared that forensic mental health assessment reports in the court setting appeared to fall quite short of professional aspirations. Citing Roesch and Golding, they described these forensic reports as "most frequently stereotyped in form", usually containing only summarized conclusions or mere medical abstractions. Although most sample reports matched legal criteria, forensic clinical psychologists did not still use psychological assessment tools and procedures with the strongest evidence of psychometric properties of reliability and validity.

Reliability and construct validity

Urbina (2014) referred to reliability as trustworthiness. To the extent that a decision to declare either or both spouses as psychologically incapacitated would have to be made, the forensic clinical psychologist needed to be sure that test results would be reasonably trustworthy. That degree of trust, in turn, would have to be evidenced by the consistency of test results of psychological instruments used to measure the disordered personality. Although reliability implied consistency, it similarly did not imply absolute consistency of test results because it was possible that the same would contain some amount of error. For instance, an error might

come from so-called "bias," which Neal and Grisso (January 2014) claimed to be frequent forensic mental health assessment because of the "inappropriate personal or emotional involvement" that forensic clinical psychologists would get themselves tangled with.

Rogers, Wasyliw, and Cavanaugh, Jr. (1984) also cited construct validity as another important psychometric property in forensic mental health assessment. They defined construct validity as the congruence of the psychological concept to associated theory. Trochim (2006) referred to this as the extent to which an operationalization of the construct could be made. Applied to the present study, construct validation would then refer to congruence of the concept of psychological incapacity with personality disorders. However, how could we then validate the construct of psychological incapacity, when this very construct was intended to be fluid in the first place? The construct then would have to come from varied sources, such as the law, jurisprudence, and empirical research studies, both psychological and legal, to explicate the concept. It would have to view, as well, the professional conventions, conferences and seminars that had academic paper presentations and publications on the construct. In its view of construct of psychological incapacity then, the Psychological Association of the Philippines (April 2010), through Dr. Roger Davis, zeroed in on personality disorders as cruxes of psychological incapacity. Dr. Davis then reminded forensic clinical psychologists that it was not enough that practitioners knew how to measure personality disorders; it was equally important for the forensic clinical psychologists, he added, to know how disorders manifested themselves and how they actually undermined marital relationships.

After the client intake, the forensic clinical psychologist would find herself/himself conducting a forensic mental health assessment that would assist the courts of law as trier of facts. In so doing, the forensic clinical psychologist would have to conduct this assessment using psychological instruments that would be both highly reliable and valid. The Minnesota Multiphasic Personality Inventory-2-Restructured Form (van der Heijden, Egger, Rossi, Grundel & Derksen, 2013), the Millon Clinical Multiaxial Inventory-III (Daubert & Metzler, 2000) and other equally powerful structured personality tests, which had long been considered reliable measures in detecting faking and feigning, would be most ideal in assessment of personality disorders to determine whether or not either/both spouses was psychologically incapacitated. In the meantime, use of the locally normed Psychological Incapacity Rating Scale (Ng & Apruebo, 2006), which actually and directly measured the construct of psychological incapacity, would also be a very good addition to the battery. The use of projective techniques (Lilienfeld, Wood, & Garb, 2000), although discouraged in forensic setting on one hand, nonetheless continued to be allowed by judges in the courtroom setting on the other hand, still increased the reliability of forensic assessment. To further increase reliability in forensic assessment, the use of collateral informants or corroborative accounts from independent and competent witnesses should ideally be extracted and incorporated in forensic mental health assessment reports (Republic of the Philippines v. Nestor Galang, 06 June 2011).

The Daubert and Frye standards

When a forensic clinical psychologist appeared in court, his or her oral testimony might or might not be admitted in evidence. In the US, the Daubert and Frye standards determined the admissibility or inadmissibility of a scientific evidence (Kelsey, 2006), including those made by experts in forensic clinical psychology. Welch (2006) claimed that Frye relied on general acceptance of the scientific community, while Daubert emphasized the role of the judge as "gatekeeper" (Neufeld, 2005) in screening the evidence presented in court. Daubert also

defined empirical criteria and recognized, as well, the possible abuse from supposed expert's opinion under the principle of *ipse dixit* or "because I say so" (Mahle, 2012). These standards then were considered as important empirical criteria to deter possible abuse of the use of expert witnesses in forensic settings. Daubert and Frye appeared to have been recognized in local jurisdiction in the case of Rosendo Herrera v. Rosendo Alba and Hon. Nimfa Cuesta-Vilches (June 15, 2005). It would then be safe to presume that the selected cases on marital nullity were either Daubert compliant because the cases were meticulously screened by the judges who presided over these cases, or Frye compliant because the cases were similarly screened based on generally accepted standards of the discipline.

Scope and limitations

This study thematically analyzed the author's four clinical cases which were already resolved in four different family trial courts. They originated from the pool of court documents that were part and parcel of the researcher's institutionally approved research proposal.

The four cases at hand were in the nature of civil cases that involved an intersection between the discipline of psychology and the discipline of law. In this regard, the nomothetic and empirical nature of discipline of psychology vis-à-vis the ideographic and *stare decisis* nature of discipline of law served as substantial and inherent limitations (Costanzo and Krauss, 2010). Further, it was in the context of the innovative nature of the discipline of psychology that the researcher employed an epistemology that was qualitative, and a methodological technique that employed thematic analysis; hence, this study emphasized depth and theory generation more than breadth and theory verification (Creswell, 2013) that characterize post positivist epistemology of a quantitative research study.

Ethical considerations

With the end in view of enhancing empirical literature on psychological incapacity, the participant spouses in this research permitted the author to include their social case history. When these documents were already part of the court records, the consent of the custodian to the aforementioned court documents was also sought.

The entire research exercise was culled from institutionally approved research proposal of the author. Appended to the said study was the author's letter of informed consent where he stressed that the benefits of the study far outweighed the minutest risk that it could possibly convey to the participants.

To fulfill the author's highest assurance of confidentiality, he needed to mask the personal identities of spouses, including the rest of their demographic profile information. Doing so would also be in observance on the Rule on Declaration of Absolute Nullity of Void Marriages and Annulment of Voidable Marriages (15 March 2003).

Theoretical framework

The theoretical underpinnings of this study included the legal theory of psychological incapacity based on Article 36 of the Family Code of the Philippines and categorical model of personality functioning based on the DSM-IV-TR, which was the effective diagnostic manual at the time these cases became part of court records.

Legal theory of psychological incapacity

Article 36 of The Family Code (as amended by Executive Order 227) served as the primary theoretical foundation of this study. Accordingly, a marital union that was contracted by an individual who was psychologically incapacitated to comply with his or her essential obligations to the marriage at the time of its celebration would be void, even if this incapacity became noticeably apparent only after solemnization of marriage. Gesmundo, as earlier referred to, claimed that this sort of incapacity, which indicated a mental state and not a physical state, would make either or both of the contracting parties fail to appreciate fully the fundamental marital agreements that he and/or she owed to this union, and that both the parties must assume and discharge accordingly.

DSM-IV-TR's categorical model

In the assessment of psychological incapacity, forensic clinical psychologists heavily relied on the use of the American Psychiatric Association's DSM-IV-TR (2000) when they diagnosed their clients. The DSM-IV's categorical model of personality disorders provided a dichotomous manner of assessing between normal personality and disordered personality functioning. It relied on certain minimum criteria as the required threshold to make a specific diagnosis of an individual's personality pathology.

The DSM-IV-TR's criteria-based model of personality and psychopathology measure was cited by Krueger (2013) as having an indiscriminate nature. The categorical model's inability to discriminate between normal personality and personality pathology seemed to come about because of excessive overlaps and excessive homogeneity that appeared inherent in the system. Just the same, said model was still considered the most reliable technology that was then available for purposes of diagnosing personality disorders.

The likelihood that the individual could readily be assessed with a personality disorder could probably be attributed to the dichotomous theory of personality functioning. Being criteria-based, the constructs of these various disorders did not actually fit into well-delineated categories. Further, there was excessive comorbidity and heterogeneity in the constructs, as well as below par convergent and discriminant validity within the various categories of these disorders (Sellbom, Smid, De Saeger, Smit, & Kamphuis, 2014).

Objectives of the study

How will thematic analysis enhance diagnosis of psychological incapacity by forensic clinical psychologists in the forensic setting? Using thematic analysis on selected cases of psychological incapacity, this study aims to single out personality disorders as the crux of psychological incapacity. Personality disorders have been, for the longest time, the basis of petitions for the judicial declaration of marital nullification in the Philippines.

Using spouses' narratives of their social case history that had become part of court transcripts, the researcher then came up with three superordinate themes that included the spouses' individual developmental years, their premarital years, and their period of marital cohabitation. Other themes and possible subthemes were then extracted and listed under each of these superordinate themes.

Methodology

Qualitative research design

Taylor and Bogdan (1998) defined qualitative methodology as a research methodology "that produces descriptive data" from "people's own written or spoken words and observable behavior." Denzin (2005), meanwhile, defined qualitative research as "a situated activity that locates the observer in the world." Tracy (2013), on the other hand, identified the three core qualitative concepts to include self-reflexivity, context and thick description.

Tracy referred to self-reflexivity as the evaluative weight that researchers allocate to their own sets of values, beliefs, and experiences and how these sets of values, beliefs and experiences impact the manner in which they interpret their research. Context, meanwhile, referred to the sense of meaning that they made out of immersing themselves in a scene. And thick description, which she claimed to be related to context, referred to the larger picture, but would usually come from these small yet multi-dimensional perspectives.

Research paradigm

The study used the interpretivist research paradigm (Research Methodology, n.d.) utilizing the narrative approach in deepening meaning and crystalizing secondary data, as spouses' collated narratives in their social case history were thematically analyzed. The interpretivist paradigm postulated that the researcher's values were integral in all phases of the research process, thereby suggesting a reality that this researcher could not be separated from the knowledge of his research. In other words, there would be no separation between "subject" and "object." It further pointed out that "interpretive researchers assume that access to reality (given or socially constructed) is only through social constructions such as language, consciousness, shared meanings, and instruments" (Myers, 2008, p. 38).

Thematic analysis

From the contents of narratives of the spouses' social case history in their psychological evaluation reports, the researcher derived codes. Saldaňa (2009) claimed that a code could be a word or a phrase, usually short, that could capture the essence and/or the attribute of textual language. He declared that the "excellence of research rests in large part on the excellence of coding." From these codes, themes were generated.

Braun and Clark (2006) claimed that a theme was something important and usually had something to do with the research questions at hand. They further claimed that as a mode of data analysis that could identify and analyze the patterns within the data at hand, the measure could inherently be characterized as flexible. As such, this study was not limited by actual and literal contents of the textual language of the court transcripts.

In doing thematic analysis, the researcher generally adhered to the coding scheme suggested by Braun and Clark with necessary modifications, as follows: (a) reading, masking and re-reading the narratives of the spouses; (b) generating the superordinate themes as the initial codes; (c) searching for other themes; (d) searching for possible subthemes; (e) reviewing the themes vis-à-vis the overt manifestations of psychological incapacity; (f) reviewing the themes vis-à-vis the criteria of personality functioning under the DSM-IV-TR; (f) defining the essence or essences of emerging themes by labeling them with specific personality disorders; and (g) producing the report by writing an intricate story behind the themes and essences.

The themes from the participant spouses' narratives in their social case history were extracted and listed under each of the superordinate categories of their developmental years, their premarital relationship years, and their marital cohabitation years. The developmental years referred to the spouses' individual childhood and adolescent years; the premarital relationship years referred to that time when the spouses got introduced to each other and started to engage in a romantic relationship which continued until they were finally married; and the marital cohabitation years referred to that time when both spouses were officially recognized as married while they lived together as husband and wife.

The themes under each of these superordinate categories were then compared to spouses' overt manifestations of psychological incapacity, which in turn, were matched with any or with all of the diagnostic features or traits of personality functioning in the Diagnostic and Statistical Manual of Mental Disorders-IV-TR (DSM-IV-TR). Figure 1 illustrates this processual paradigm.
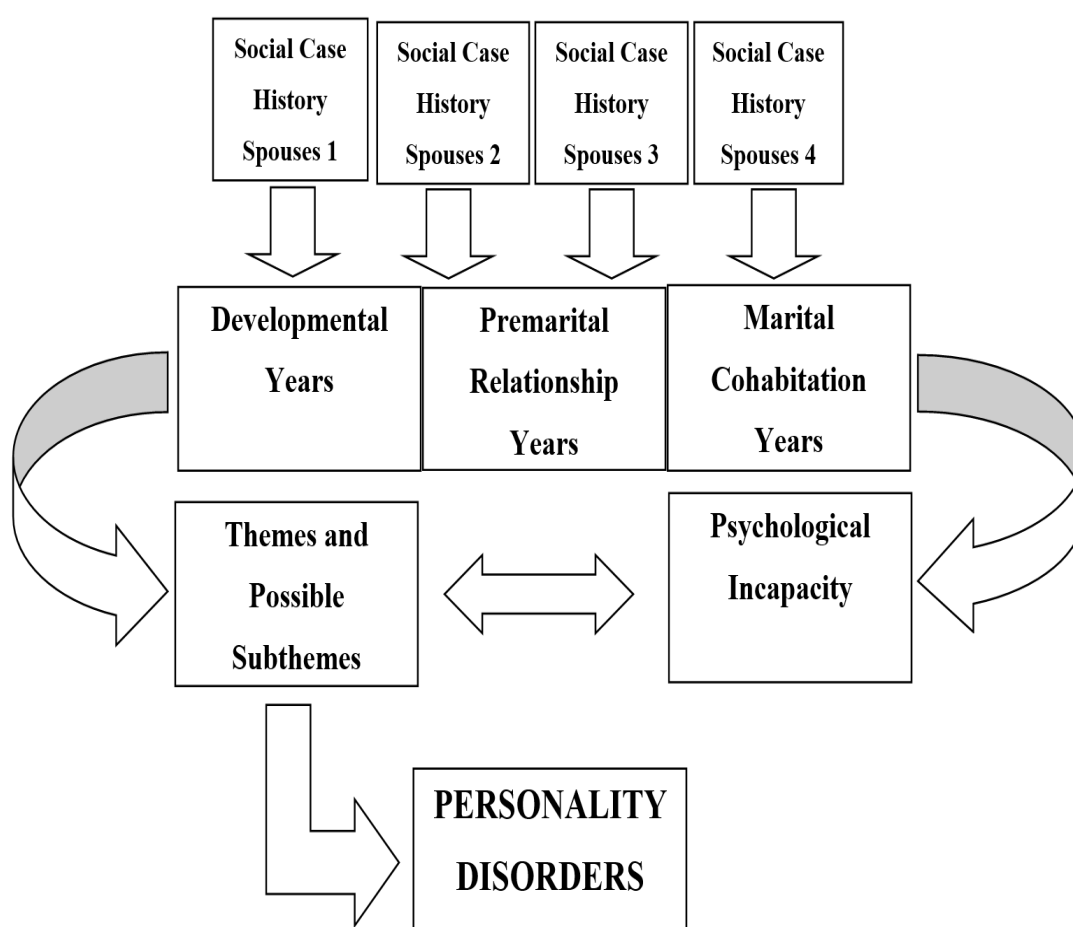

Figure 1: The processual research paradigm on how specific personality disorders were derived from the themes in the spouses' narratives.

Results

In all the following cases, petitioner spouses responded to the given set of structured clinical interview questionnaire. Thereafter, they were given powerful psychometric tests, such as the Minnesota Multiphasic Personality Inventory-2-Restructed Form (MMPI-2-RF) and/or the Millon Clinical Multiaxial Inventory-III (MCMI-III). They were also given two projective

techniques, which included the Thematic Apperception Test (TAT) and the Draw-A-Person Test (DAP).

Respondent spouses, in the meantime, were sent the necessary letter of invitation for psychological evaluation, but to no avail. Respondents were either unavailable or were simply not interested to undergo the psychological evaluation because they had been, in fact, separated for years. The forensic clinical psychologist then invited at least two collateral informants who had personal knowledge of the spouses' marital relationships and their juridical antecedent behaviors and who were not at all biased. These collateral informants corroborated the accounts made by the petitioner spouses.

The structured interview questionnaire revolved around the following items: (a) the individual family history of the spouses which asked about significant clinical events in the spouses' lineage; (b) the individual childhood and adolescent years of the spouses; (c) the premarital relationship years which became the takeoff point of the spouses' romantic involvement with each other until they were legally married; and (d) the period of marital cohabitation of the spouses when they lived together as husband and wife.

The spouses' individual childhood and adolescent years asked about the significant familial dynamics which included the individual's relationships with his or her parents, and with his or her siblings and other immediate family members and relatives. It also asked about significant interpersonal relationships with neighbors, friends and significant others. The individual spouses were also probed for possible traumas and other clinically significant events that served as juridical antecedent behaviors supposedly leading to the individual spouse's disordered personality.

The premarital relationship years asked about matters relating to the courtship and romantic involvement with each other until the spouses officially became husband and wife. It similarly looked into interpersonal dynamics of the individual spouses with his or her colleagues at work, and with his or her close circle of friends, peers, and significant others. Just like the earlier childhood and adolescent years, said premarital relationship years of involvement were part and parcel of the so-called juridical antecedent behaviors of spouses.

Taking off from the time when the spouses officially became husband and wife, the period of marital cohabitation investigated matters involving the spouses' affective communication with each other, the time they devoted to each other, the spouses' satisfaction or dissatisfaction on matters involving family income and expenses, their sexual satisfaction or dissatisfaction, manner of resolving major concerns, issues and problems in the family, style of rearing children, interpersonal dealings with each other's family members and relatives, and the other clinically significant events during the spouses' years of marital cohabitation.

With the presenting problem of looking into whether or not either or both of the spouses was psychologically incapacitated, the forensic clinical psychologist gauged the gravity of the tumultuous marital relationship by looking into its frequency and its impact on the individual spouse's cognitive, affective and behavioral functioning while its incurability was gauged by looking into its pervasiveness and presence or absence of juridical antecedent behaviors.

Table 1 enumerates the narratives (initial codes) from Petitioner 1's (P1) and Respondent 1's (R1) social case history.

Spouses	Developmental Years	Premarital Relationship Years	Marital Cohabitation Years
Petitioner 1 (P1)	No traumatic childhood Good familial and interpersonal relations (with occasional fights) Involvement in intimate relations	P1 & R1 engaged in premarital sexual relations R1 persistently monitored P1's whereabouts	R1 became very possessive (e.g., did not allow P1 to see his friends) R1 regularly checked out P1's personal belongings R1 became verbally abusive R1 regularly checked on who P1 would hang out with
Respondent 1 (R1)	Poor familial relations (physically abusive father) Poor interpersonal relations Witnessed several other traumatic events		

Table 1: Enumerated narratives (Initial Codes) from Petitioner 1's (P1) and Respondent 1's (R1) social case history

P1 experienced the pervasive life pattern of a well-adjusted individual who managed to function cognitively, affectively and behaviorally. P1 complied with all essential marital obligations, including the obligation to cohabit, to show mutual love, respect and support, and to refrain from doing acts that could bring danger, dishonor or injury to the other spouse. Juridical antecedents during the childhood and adolescent years that readily revealed the pre-existing, precipitating and predisposing behaviors indicative of psychological incapacity were also not established considering the generally good familial relationship that became P1's lifelong support.

R1, meanwhile, readily converted the enduring poor interpersonal relations, the longstanding bitter life circumstances, e.g., that of having been physically abused by the father and that of having witnessed several other traumatic events in life, and the extreme suspiciousness during marital cohabitation, to a life pattern of mistrust of others even without any basis at all. R1 then failed to comply with the essential marital obligations, including the obligation to cohabit, to show mutual love, respect and support, and to refrain from doing acts that would bring danger, dishonor or injury to the petitioner spouse. The aforementioned juridical antecedents predisposed R1 to become extremely suspicious of others, which antecedent behaviors R1 clearly manifested into the marital relationship.

The crux of R1's psychological incapacity then was his or her Paranoid Personality Disorder which was seen as a pervasive life pattern of mistrust and suspiciousness of others and which sense of mistrust and suspiciousness of others started to take off during R1's developmental

years. The frequency, intensity and duration of R1's life circumstances similarly indicated its gravity and seriousness.

Table 2 enumerates the narratives (initial codes) from Petitioner 2's (P2) and Respondent 2's (R2) social case history.

Spouses	Developmental Years	Premarital Relationship Years	Marital Cohabitation Years
Petitioner 2 (P2)	Good familial and interpersonal relations No traumatic childhood experience Belatedly learned about the adoption Involvement in intimate relations	R2 pampered P2 (e.g., treated to good food and movies and expensive material things) R2 exhibited possessiveness and jealousy R2 manipulated P2 to cheat his age during the marital celebration	P2 & R2 would argue and quarrel most of the time because of R2's incessant nagging R2 became domineering and demanding R2 prevented P2 from seeing his relatives and friends P2 singlehandedly took care of their child
Respondent 2 (R2)	Poor familial relations (verbally and psychologically abusive mother) Poor interpersonal relations (verbally abused the friends)		R2 engaged in extramarital affairs

Table 2: Enumerated narratives (Initial Codes) from Petitioner 2's (P2) and Respondent 2's (R2) social case history

P2 experienced the pervasive life pattern of a well-adjusted individual who, despite marital concerns, managed to function cognitively, affectively and behaviorally. The good familial and interpersonal relations with others provided the necessary bedrock to comply with essential marital obligations later on in life, including the obligation to cohabit with spouse, to show mutual love, respect, support, and loyalty, and to refrain from doing acts that could bring danger, dishonor or injury to the other spouse. During the marital cohabitation, it was shown that P2 even singlehandedly took care of their child without R2's mutual help and support. P2's juridical antecedent behaviors, which could have readily disclosed the pre-existing, precipitating and predisposing behaviors indicative of psychological incapacity, were also not established.

R2, in the meantime, readily converted meaningless events into hostile experiences as a result of the cynical belief and distrust of others. R2 then failed to comply with the essential marital obligations, including the obligation to cohabit, to show mutual love, respect and support, and to refrain from doing acts that would bring danger, dishonor or injury to the other spouse.

Juridical antecedents, such as a stressful familial relationship emanating from a psychologically and verbally abusive mother and that of being similarly abusive to friends, pre-existed, precipitated and predisposed R2 to become extremely argumentative and excessively possessive. These then were the behaviors that R2 clearly manifested in the marriage during marital cohabitation.

The crux of R2's psychological incapacity was his or her Paranoid Personality Disorder which was seen as a pervasive life pattern of cynical beliefs and distrust of others and which cynicism and sense of distrust of others started to take off from R2's developmental years. R2's Paranoid Personality Disorder manifested itself gravely and incurably at the time of his or her marital cohabitation with P2. The chronic nature of R2's suspiciousness and distrust of others made the same patently grave and serious.

Table 3 enumerated the narratives (initial codes) from Petitioner 3's (P3) and Respondent 3's (R3) social case history.

Spouses	Developmental Years	Premarital Relationship Years	Marital Cohabitation Years
Petitioner 3 (P3)	Good familial and interpersonal relations No traumatic childhood and adolescent experience	P3 and R3 initially started off as acquaintances (R3 was the friend of P3's friend) R3 raped P3 R3 used *shabu* (methamphetamine hydrochloride) R3 raped P3 for the second time	R3 proposed marriage to avoid the rape charges P3 married R3 because she was left with no choice R3 was into drinking, gambling and womanizing R3 was physically, verbally, psychologically, sexually and financially abusive P3, as an OFW (Overseas Filipino Worker), provided the financial resources to R3
Respondent 3 (R3)	Spoiled by the parents Traumatized by the death of the aunt Learned to smoke and drink Masturbatory adolescent life		

Table 3: Enumerated narratives (initial codes) from Petitioner 3's (P3) and Respondent 3's (R3) social case history

P3 experienced the pervasive life pattern of a well-adjusted individual who, despite marital concerns, managed to function cognitively, affectively and behaviorally. P3 complied with all essential marital obligations, including the obligation to cohabit, to show mutual love, respect and support, and to refrain from doing acts that could bring danger, dishonor or injury to respondent spouse. Juridical antecedents that were extracted from the childhood years, adolescent years, and premarital years, which could have readily specified the pre-existing, precipitating and predisposing behaviors indicative of psychological incapacity, were also not established. Instead, the good familial and interpersonal relations provided the solid backing

that enabled P3 to become psychologically stable later on in life despite the two occasions of sexual assault.

R3, meanwhile, displayed a pervasive life pattern characterized by thoughts, feelings and behavior that had a grandiose sense of self-importance and self-entitlement. Worse, R3 had a total lack of empathy for P3, their kids, and the significant others in their lives. R3 demonstrated a very strong need to fulfill the whims and caprices in life and consistently showed repetitive occasions of exploitative behavior. R3 was physically, psychologically, verbally, sexually and financially abusive of P3.

R3 then failed to comply with essential marital obligations, including obligation to cohabit, to show mutual love, respect, support and fidelity, and to refrain from doing acts that could bring danger, dishonor or injury to P3. The juridical antecedent behaviors of pampering, during childhood and adolescence, predisposed R3 to have an extremely bloated ego that was carried and manifested clearly during marital cohabitation.

The crux of R3's psychological incapacity was his or her Narcissistic Personality Disorder which was seen as a pervasive life pattern of grandiose self-importance and self-entitlement and which sense of grandiosity started to take off during his/her childhood and adolescent years. Nonetheless, R3's Narcissistic Personality Disorder actually manifested itself during the spouses' marital cohabitation. R3's lifelong fixation towards himself or herself, the pervasive preoccupation towards self-entitlement, and his or her grandiose sense of self-importance made his or her narcissism patently grave, serious and incurable.

Table 4 enumerates the narratives (initial codes) from Petitioner 4's (P4) and Respondent 4's (R4) social case history.

Spouses	Developmental Years	Premarital Relationship Years	Marital Cohabitation Years
Petitioner 4 (P4)	Poor familial relations (did not communicate with the mother)	P4 engaged in premarital relations with R4	R4 did not provide financial support to the family
	Sibling rivalry (P4 was the favorite of the father; the sibling was the favorite of the mother)	P4 got pregnant and was left with no choice but to marry R4	R4 continued to drink and smoke heavily and used *shabu* (methamphetamine hydrochloride), as well
	Had a poor sense of self-esteem and self-adequacy		R4 became physically violent (beatings became normal) with P4
	Involvement in sports		R4 became jealous and verbally abusive without basis
Respondent 4 (R4)	Adopted child		R4 got into constant arguments and fights with R4's own family and with P4's family
	Pampered by the parents		P4 was influenced by R4 to use *shabu* (methamphetamine hydrochloride)
	Discourteous and violent towards the parents		P4 did not admit any fault or wrongdoing in the marital relations
	Father got R4 "off the hook" whenever R4 got into trouble with authorities		
	Misbehaved, absented frequently and did poorly in school		

Table 4: Enumerated narratives (initial codes) from Petitioner 4's (P4) and Respondent 4's (R4) social case history

P4 also revealed a life pattern characterized by a grandiose sense of self-importance and self-entitlement. P4 failed to comply with essential marital obligation to refrain from doing acts that would bring danger, dishonor or injury to R4 and their family. The juridical antecedent behaviors of having a dysfunctional familial relations and a very poor sense of self-esteem and self-adequacy predisposed P4 to have an extremely bloated sense of ego (a typical reaction-formation) that was carried into and manifested clearly during marital cohabitation.

The crux of P4's psychological incapacity was his or her Narcissistic Personality Disorder which was seen as a persistent life pattern of excessive longing to be taken care of and an extreme need to self-entitlement and which extreme need and longing started to take off during his or her late childhood to early adolescence when he or she was initially deprived of maternal love, care and support.

Although P4 received a superficial kind of care and support from his or her peers while he or she was involved in his/her sports activity, the same was only artificial and temporary. This was also true when P4 romantically got involved with R4 who was, in fact, the person responsible for making him or her use and abuse the substance known as *shabu* or methamphetamine hydrochloride, a prohibited and very dangerous drug.

P4's Narcissistic Personality Disorder actually manifested itself during the spouses' marital cohabitation. Although not overtly obvious, P4's lifelong fixation towards himself or herself, his or her pervasive preoccupation to be taken care of, and his or her extreme need towards self-entitlement made his or her narcissism patently grave and incurable.

R4, meanwhile, experienced a life pattern of instability in interpersonal relationships, self-image, and emotions. R4 also displayed self-injurious behaviors, including suicidal thoughts and damaging risky behaviors. Juridical antecedents of extreme parental pampering and of experiencing a very poor sense of self-identity due to the thought of being adopted and cheated were carried into, and actually manifested at the time of marital celebration.

The crux of R4's psychological incapacity was his or her Borderline Personality Disorder which was seen as a pervasive life pattern of instability in self-image, interpersonal relationships, and affect. Self-injurious and risky behaviors towards self and others were carried into and manifested quite obviously during the marital union. The lack of empathy for his or her spouse was also manifested in terms of his or her extremely abusive behaviors.

Juridical antecedent behaviors of extreme pampering from the father – who was lax in exercising parental discipline and who was always there to rescue R4 from all his or her troubles – became the takeoff point of his or her Borderline Personality Disorder. The unstable self-image and affect were also considered precipitating factors towards this personality pathology. The lifelong personality configuration of instability and persistence to get involved in risky behaviors seemed to have made this personality pathology grave and incurable.

Table 5 presents the themes from the spouses' narratives of their social case history.

Spouses	Developmental Years	Premarital Relationship Years	Marital Cohabitation Years
P1	No childhood and no adolescent issues	No premarital issues	No marital issues
R1	Physical abuse and trauma issues	Trust issues	Trust issues
P2	No childhood and no adolescent issues	No premarital issues	No marital issues
R2	Verbal abuse and psychological abuse issues	Trust issues Manipulation issues	Trust issues Child-rearing issues
P3	No childhood and no adolescent issues	No premarital issues	No marital issues
R3	Pampering issues Trauma issues	Substance abuse issues Power issues	Substance abuse issues Power issues Manipulation issues Self-entitlement issues Empathy issues
P4	Family relational issues Self-esteem issues	Family relational issues Entitlement issues	Family relational issues Substance abuse issues Self-esteem issues Self-entitlement issues
R4	Family relational issues Instability and impulsivity of affect issues Impulsive and reckless behavior issues	Substance abuse	Substance abuse issue Self-identity and self-image issues Impulsivity issues Emotional issues

Table 5: Themes from the spouses' narratives of their social case history

From the initial codes that were earlier extracted, themes were generated. The themes were actually calibrated based on commonality of presenting issues (or absence thereof) in the

spouses' narratives of their social case history. Narratives that did not present a common issue or those that were not tangential to the common issue were dropped and not utilized.

Among the themes that were likely to indicate specific personality disorders were those issues that involved trust, manipulation, self-entitlement, self-esteem, power, substance abuse, empathy, family relations, self-identity and self-image, impulsivity and emotions. The cited themes were further reduced to three major themes – trust issues, self-entitlement and empathy issues, and self-image and impulsivity issues.

Table 6 identifies the specific personality disorders based on the earlier emerging themes.

Spouses	Personality Disorders
P1	No Personality Disorder
R1	Paranoid Personality Disorder
P2	No Personality Disorder
R2	Paranoid Personality Disorder
P3	No Personality Disorder
R3	Narcissistic Personality Disorder
P4	Narcissistic Personality Disorder
R4	Borderline Personality Disorder

Table 6: Specific personality disorders based on earlier emerging themes

Out of the researcher's four clinical cases, two respondent spouses were labelled to have Paranoid Personality Disorder based on extracted themes in the spouses' narratives of their social case history. In the DSM-IV-TR, Paranoid Personality Disorder is a pervasive pattern of distrust of other people such that their motives are construed to be malicious. In the aforementioned clinical cases, the issues of trust were manifested when the paranoid spouse read the hidden condescending meanings of the other spouse into this latter spouse's nonthreatening remarks, and when the paranoid spouse had recurrent suspicions, without any basis, with regard to the loyalty of the other spouse.

The two other clinical cases were labelled to have Narcissistic Personality Disorder. In the DSM-IV-TR, Narcissistic Personality Disorder is a pervasive pattern of grandiosity, need for admiration, and lack of empathy. In the case of the narcissistic respondent spouse, Narcissistic Personality Disorder was demonstrated in the following thematic occurrences: (a) respondent spouse exhibited a grand sense of self-entitlement; (b) respondent spouse showed a preoccupation with fantasies of unlimited power; (c) respondent spouse exploited the spouse; and (d) respondent spouse manifested a total lack of empathy by becoming abusive physically, psychologically, verbally, sexually and even financially with the spouse. In the other case of the narcissistic petitioner spouse, Narcissistic Personality Disorder was established when

petitioner spouse exhibited an extreme need to be taken care of and a grand entitlement to unreasonable expectations of favorable treatments from one's own family.

The remaining case in the aforementioned four clinical cases referred to the lone instance of the borderline respondent spouse. In the DSM-IV-TR's context of this personality psychopathology, Borderline Personality Disorder is a pervasive pattern of instability of self-image, interpersonal relationships, and emotions. Respondent spouse's Borderline Personality Disorder was marked with the following issues: (a) self-identity or self-image with reference to respondent spouse's very own adoption concerns; (b) impulsivity in affect; (c) substance abuse; (d) recurrent suicidal behaviors; (e) difficultly of controlling anger; and (f) involvement in arguments and fights with family members.

Conclusion

Thematizing the narratives of spouses' social case history will surely enhance the reliability of test results in forensic mental health evaluation to determine whether either or both spouses is psychologically incapacitated to fulfill his or her basic obligations in the marital union. Meanwhile, the use of the powerful psychometric tests, in combination with the use of projective techniques, collateral information and a locally normed test, will probably remain to be a very good battery in the psychological assessment of the spouses on matters involving petitions for the declaration of nullity of marriage.

The earlier given forensic mental health procedures will, nonetheless, not always be the given scenario. More often, reality presents situations where forensic clinical psychologists have uncooperative respondent spouses whose goal is to make the lives of their petitioner spouses more difficult than they already are. Providing a thematic analysis ensures a very satisfactory alternative assessment procedure to the traditional forensic mental health assessment procedures used where you have the respondent spouse undertaking the earlier given battery. Explicating the narratives by using themes also makes it easier for the courts of law to understand the nature of psychological incapacity which has been, in so many occasions, rooted on personality disorders.

Although thematically analyzing the narratives of the spouses' social case history obviously provides a very convenient way to better understand how personality disorders can be extracted from the overt manifestations of psychological incapacity, the thematic procedure is only as good as the researcher whose epistemology is one of a social constructionist, an individual who is keen on creating worldviews from his understanding of the language and the phenomenon that he encounters.

Then, there is also the problem of generalizability of the forensic assessment results, which as earlier pointed out, does not hold water in a qualitative research study whose real intent is to provide depth of ideas and not breadth. Then again, how do you separate the knowledge from the being? The researcher, having been immersed in the practice for the longest time, claims that this is very unlikely. The knowledge and being is one; the research and researcher is one; and the extracted theme and thematic analyst, a social constructionist, is just but one and the same.

In the furtherance and propagation of this qualitative research study then, the aforementioned "bias" inherent in the use of thematic analysis in forensic mental health assessment on marital nullification can still be remedied by doing additional research work in this area using the same

qualitative technique of extracting themes from the written and/or oral accounts of the spouses' narratives. Its "perceived" vulnerability, meanwhile, can be strengthened by going through the rigors of triangulation using the expert opinion of practicing forensic psychologists and the legal opinion of family court judges, prosecutors, and practicing lawyers.

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